

# American Aviation

The Independent Voice of American Aeronautics

Dec. 1 no. lacks pp. 15-16

DECEMBER 1, 1943

## First Things First

*Fortnightly Review*  
CANDIDATE for public office in Massachusetts has announced a form worthy of special attention. He has pledged the voters—

"I will take care of my wife and family first; my relatives second; the public last."

that chap will get votes. He has first things first and will have the best of solid citizens for his honesty and straight thinking. He has reminded that the first duty of every man is his home.

There is a lesson in all this for those who are devoted to the broadening aviation business. Aviation's first duty to build at home once the war is won. Scinating and hopeful as the world of flying may be, the first and foremost job of aviation is to look to the front for its greatest and most everlasting future.

American enterprise which gave us better roofings for our homes, made plumbing and convenient sewage disposal a healthy reality, developed food processing and distribution systems, gave us automobiles for family relaxation and business travel, and the moving picture and radio for entertainment and education, did not come from the open felt gaming tables of the international casino. And the future America with better housing, better transportation, and more accessible entertainment and industry, will not come, either, from the international casino that spent more time fighting and arguing and concocting one intrigue after another than it has in the development of better living for mankind.

The United States must set the pace postwar aviation, but let no one be deceived about the location of the measures.

(Turn to page 9)



## Open Important Hearing

Important hearings on postwar commercial aviation opened last fortnight before the Senate Commerce Committee under direction of Sen. Bennett Champ Clark (D., Mo.), left, chairman of the committee's aviation subcommittee, and Sen. Josiah Bailey (D., N. C.), chairman of the Commerce Committee. (See story on page 15).

## Late Bulletins

### Beaverbrook in Canada

Lord Beaverbrook, British Lord Privy Seal, and Lord Leathers, War Transport Minister, have arrived in Canada and are expected to come to U. S. shortly for the first of a series of discussions on air policy. Indication that British shippers may be in postwar aviation was seen in the fact that Lord Leathers is a shipping man.

### Asks Uniform Air Law

Regulation of aviation should be uniform throughout the U. S. and this means placing control in the hands of a single national regulatory agency, CAB Member Oswald Ryan said Nov. 24. Even under a single federal law there is no reason why states cannot assist in enforcement, he said.

**New Record Expected:** Official War Production Board figures are expected to be out within a few days revealing that aircraft production for the month of November surged substantially ahead of the record-breaking output of 8,362 planes in October. Conservative guesses place the total expected at somewhere around 8,700. Gains are expected to be shown in practically all categories.

*Trend of  
The News*

**WPB Reorganization:** There is now every indication that the War Production Board will be reorganized and personnel will be reshuffled in such a manner as to allow it to perform the functions both of production and reconversion of industry, without overlapping. WPB is definitely one of the government agencies to watch in connection with the approach of specific reconversion planning.

**P. O. Attitude:** The letter written to CAB by Postmaster General Frank C. Walker (see page 17) saying, in effect, that widespread expansion of feeder air routes will not be necessary, is viewed with great importance in Washington and throughout the industry. This is the first time that the P. O. has publicly stated its position. Two things should be remembered, however: (1) the P. O. is traditionally cautious, seldom goes out on a limb advocating anything; (2) the P. O. speaks only for air mail, makes no attempt to judge the passenger and express aspects of the situation. This doesn't mean, however, that the P. O. letter won't be carefully considered. It will.

**Truckers' Applications:** The many air route applications filed with the CAB by truck companies aren't being taken too seriously by many observers. The truck lines have been too busy in the past several years fighting railroad "invasion" to want the various forms of transportation intermingled. The American Trucking Associations has gone on record to this effect. Opinion seems to be that the truck applications were (1) for publicity, (2) a long shot, the companies being willing to risk the price of an application against the possibility that they might get a million-dollar air route.

**Pressure on Wilson:** Background of the decision by Charles E. Wilson to remain as vice chairman of the War Production Board heading the aeronautical production program goes

(Turn to page 6)

20c



## Highway patrol

Sure, you've read this story before. It's in your newspaper frequently. "Bombers over Germany again last night . . . escorting Thunderbolts broke up mass attack by enemy fighters."

Possibly you missed an important point: *that most of these battles start at near-stratosphere levels, up around 35,000 feet or above.*

Thunderbolts patrol the *high* ways of today's air war, the strategically important stratosphere.

This very same stratosphere will be the natural sky-road for tomorrow's high speed, long distance transportation. We think of the Thunderbolt as the forerunner of great peacetime planes to come—planes designed for high speed, high altitude flight.

Republic Aviation will know how to build them! Republic Aviation Corporation, Farmingdale, L. I., New York.



# REPUBLIC AVIATION

SPECIALISTS IN HIGH-SPEED AIRCRAFT

MAKERS OF THE

# Thunderbolt



# Thanks

As we redouble *our* efforts to meet the war demands, our passengers keep pace with *their* co-operation. Many non-priority passengers, often at great personal inconvenience, give the right of way to those with priority. For this they have our thanks and the thanks of the nation.

During the past year, Flagships have shortened millions of miles, saved countless hours, and immeasurably expedited our nation's war activities. Yet in relation to available space, American has transported more passengers, more cargo and more mail than in any previous year—more in volume and more in importance!

But all of the credit for this unprecedented job does not belong to members of American's own organization. Thousands of travelers have continually helped to make it possible. They have slept in seats, instead of berths and they have often surrendered those seats, in order to enable us to carry a greater

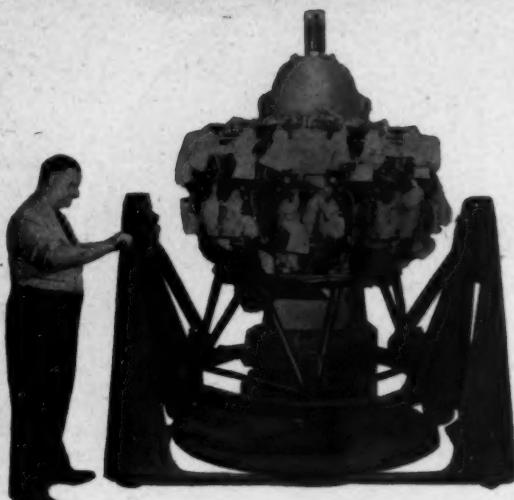
number of the most essential travelers. They have made reservations as far in advance as possible and in many other ways have inspired our personnel and made it even more of a pleasure to serve them.

War is a severe teacher. It has taught, among other lessons, that when time is of the essence, there is no substitute for the speed and freedom of movement of air transportation. *Without it, America would be greatly handicapped.*

When will this war end? *When we win it.* We face the new year with increasing evidence that the most effective use of airplanes, both at home as well as overseas, is *indispensable* to victory. We also see in aviation's prodigious war progress the promise of finer and faster passenger and cargo planes, equally *indispensable* to a rapid rebuilding of a better world.

  
A. N. KEMP  
President

# CLAYBORNE



## POSITIONING EQUIPMENT

CLAYBORNE PORTABLE ENGINE STANDS greatly simplify aircraft engine assembly and maintenance.

Illustrated is MODEL AC-24 for assembly and servicing of the Wright Cyclone Engine. The engine is manufactured or maintained on test mount—Eliminates extra labor.

Companion stands—MODEL AC-21 for Front Section Crankcase Sub-Assembly and MODEL AC-22 for Supercharger Rear Housing Sub-Assembly.

We have also manufactured production line equipment for:

**ALLISON, DIVISION OF GENERAL MOTORS**

**CONTINENTAL MOTORS CORPORATION**

**CONTINENTAL AVIATION & ENGINEERING COMPANY**

**DODGE-CHICAGO PLANT, DIVISION OF CHRYSLER CORP.**

**ELECTROMOTIVE CORP.**

**WRIGHT AERONAUTICAL CORP.**

*Government Agencies such as:*

**ARMY AIR FORCES**

**BUREAU OF AERONAUTICS**

**BUREAU OF SHIPS**

**ARMY ORDNANCE**

**U. S. COAST GUARD**

**U. S. ENGINEERS**

**Glenn L. Martin**      **Cal-Aero Academy Training School**  
**T.W.A. Training School**      **Chicago & Southern Air Lines**

There is Clayborne Positioning Equipment for practically every type of aircraft engine. Also Clayborne Portable and Stationary Cylinder Stands.

Write for Catalog describing our Complete Line.

**CLAYBORNE MANUFACTURING CO.**  
2634 SOUTH MICHIGAN AVENUE      CHICAGO, ILL.

# American Aviation

Vol. 7, No. 13

December 1, 1943

Global Air Program Revealed	15
Vote on Lea Bill Scheduled	16
P. O. Cautious on Feeder Lines	17
Mfgs. Oppose Wilson Resignation	18
Ryan Airs Postwar Views	20
Hemispheric Unity Urged	21
Aviation Clinic Successful	24

*The Independent Voice of American Aeronautics*

Published the 1st and 15th of each month by American Aviation Associates, Inc., American Building, 1317 F Street, NW, Washington, 4, D. C. Printed at The Telegraph Press, Cameron and Kelker Sts., Harrisburg, Pa. Entered as second class matter at Washington, D. C. and Harrisburg, Pa.

WAYNE W. PARRISH, EDITOR AND PUBLISHER

ERIC BRAMLEY, EXECUTIVE EDITOR

THOMAS E. LINDSEY, BUSINESS MANAGER

DEPARTMENT EDITORS: Katherine E. Johnsen (Congress); Conrad Campbell (Manufacturing); E. J. Foley (Equipment); Peggy Guetter (West Coast); Clifford Guest (Special Assignments); Barbara B. C. McNamee (War Agencies); William Thompson (Production Editor and Staff Photographer); Gerard B. Dobben (Transport).

### REGIONAL REPRESENTATIVES:

Miss Peggy Guetter, West Coast Representative, Room 1404, Park Central Bldg., 412 West Sixth St., Los Angeles, Cal. Telephone: Vandike 2680.

Harry Brown, Midwestern Advertising Manager, 522 Briar Place, Chicago, Ill. Telephone: Lakeview 6704.

O. R. Elofson, Eastern Advertising Manager, 2207 RKO Bldg., 1270 Sixth Avenue, New York, N. Y. Telephone: Circle 6-9446.

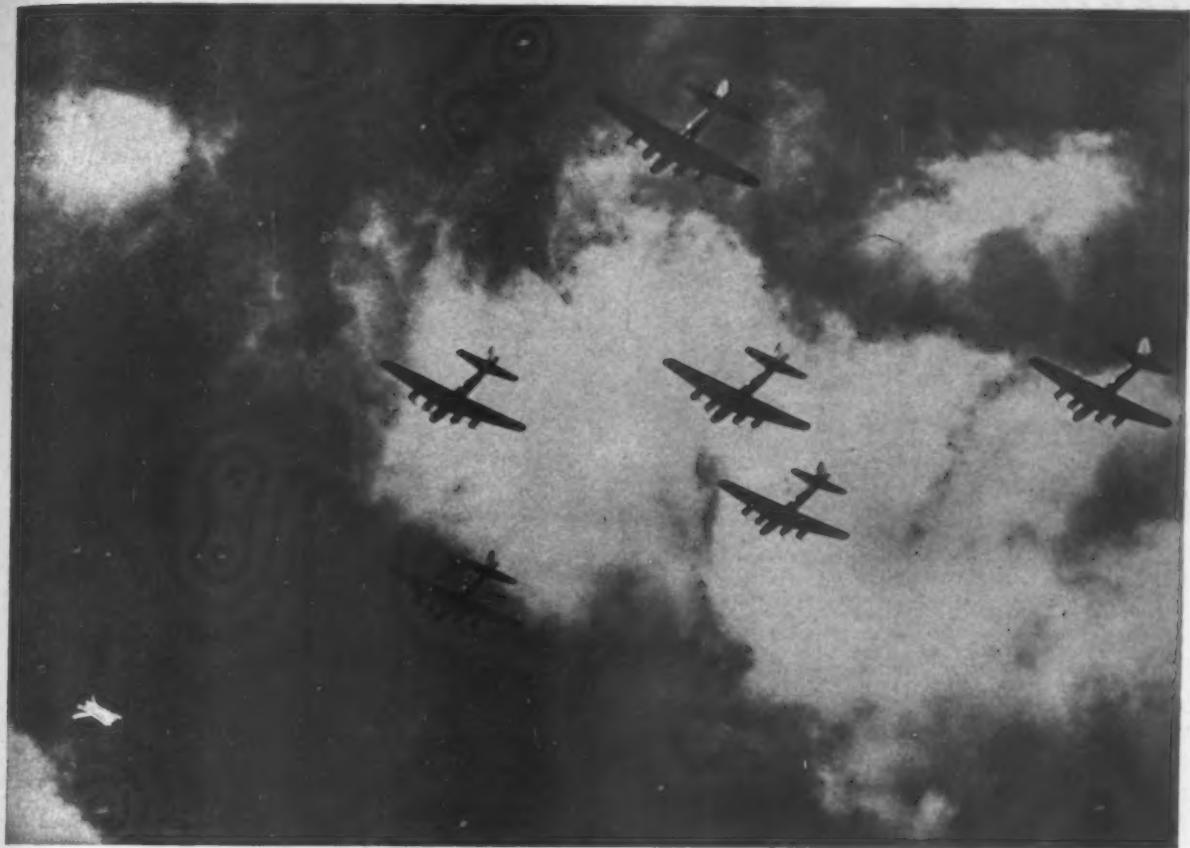
J. Forecast, British Representative, Edwin Greenwood Ltd., Strand, W.C.2, Thanet House, London, England.

PUBLISHING CORPORATION: American Aviation Associates, Inc., Wayne W. Parrish, President; Col. Albert H. Stackpole, Vice-President (in active military service); Eric Bramley, Vice-President; Brig. Gen. E. J. Stackpole, Jr., Treasurer (in active military service); Thomas E. Lindsey, Secy. AMERICAN AVIATION: Subscription rates for U. S., Mexico, Central and South American countries—\$3 for 1 year; \$4 for 2 years; \$5 for 3 years. Canada—\$3.50 for 1 year; \$4.50 for 2 years. All other countries—\$4.50 for 1 year; \$5.50 for 3 years.

AMERICAN AVIATION DAILY: Published six days each week except holidays; dispatched by air mail. \$15 per month; \$35 for six months; \$170 per year. Group company rates on request. Service Bureau available to all subscribers. CONRAD CAMPBELL, Managing Editor.

AMERICAN AVIATION DIRECTORY: Published twice a year, spring and fall. Complete reference data on administrative and operating personnel of airlines, manufacturers, accessories firms and their products, organizations, schools and local operators. Federal and state government agencies concerned with aviation. Single copy, \$5; Annual subscriptions, \$7.50. Discounts on quantity orders. Next edition scheduled for April. HELEN L. WALSH, Managing Editor.

UNIVERSAL AIRLINE SCHEDULES: Published and revised monthly at 139 North Clark Street, Chicago, Ill. (Telephone: State 2154). Complete airline schedules, fares, and travel information, including international air transportation. Subscription rates: \$5.00 per year. Airline rates on request. H. D. WHITNEY, Managing Editor.



## SO THAT AMERICAN EYES MAY SEE ONLY AMERICAN PLANES IN AMERICAN SKIES...

Flying into the winds of the world—into blue and gray skies of day, and star-beaconed or storm-blackened skies of night . . . you of the Army and Navy Air Forces, blasting an evil foe into defeat, carry your people's hopes and prayers.

Whether in mortal combat—or patrolling the cloud ramparts of the enemy frontiers; whether in training or on transport runs along endless sky trails . . . you aloft, and you of the ground forces that keep 'em flying, joined with your comrades of land and sea, take your nation's salute.

Here in your own homeland, your people look to the Heavens—not in terror at the enemy's approach—but to thank God for you.

**HAYES INDUSTRIES, INC. JACKSON, MICHIGAN**

Representatives: { Eastern: J. Henry Reissner, Hagerstown, Md.  
Western: Airsupply Co., 5059 W. 3rd St., Los Angeles



On the Boeing Flying Fortresses you see above, as on Consolidated Liberators—on all American 4-engine bombers—the wheels and famed Expander Tube brakes are "Hayes." On fighting and training planes, Army and Navy—on transports and commercial airliners—Hayes wheels and brakes are doing a 'round the clock job, around the world.

## TAKING THE HEAT OFF!



### "ALL OUR PLANES RETURNED TO BASE!"

**A**—this phrase appears more frequently in reports of bombing raids due largely to the improved protection provided by high-flying P-47 Thunderbolts! These ships owe their climbing speed and high operating ceiling to the super-charged engine and to the intercooler which removes the excess heat from the engine intake air before it goes to the carburetor.

#### "DOORMAN" FOR THE INTERCOOLER!

The current of cooling air is controlled by a door operated by the Dumore Aeromotor, SP 5365. To minimize overtravel and jamming of the door, a magnetic brake was added to the original motor model, increasing its overall length only  $\frac{1}{8}$ ". This motor is conditioned to operate efficiently under temperatures from below zero to  $165^{\circ}$  F. and in the rare atmosphere of 40,000 feet up.

It typifies the achievements of Dumore engineers who have found ways of providing reliable power, great stamina and various accessories well within the limits of space and weight allowed by the aircraft designers.

Dumore engineers welcome your inquiries and offer their aid and suggestions in your application of Dumore Aeromotors.

FOR EXTRA POWER HOURS

*Dumore*

HEADQUARTERS FOR  
FRACTIONAL HORSEPOWER  
MOTORS

THE DUMORE COMPANY • AVIATION DIVISION • RACINE, WISCONSIN



(Continued from page 1)

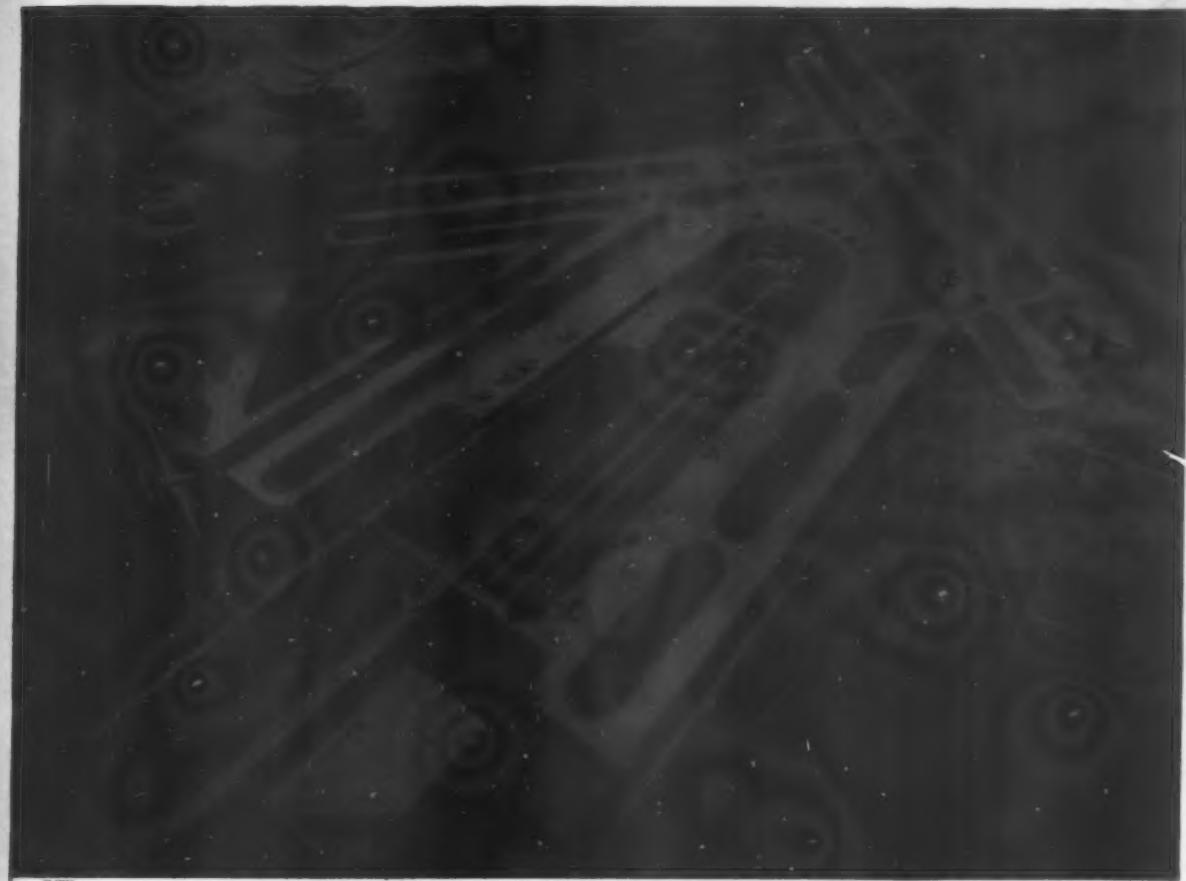
further than the intercession of Economic Mobilizer Byrnes. It began when a representative of the National Aircraft War Production Council, in response to the overwhelming sentiment of the industry seeking to keep Wilson on the job, went direct to Byrnes and "sold" him on the desire of the manufacturers to keep Wilson in the key spot. Byrnes acted immediately, thus demonstrating the power of the industry voice speaking through AWPC.

**Expediting Production:** A special Production Expediting Committee created on the West Coast under auspices of the Aircraft War Production Council has brought together the key production men in each aircraft company in a move which promises to continue the trend of improvement in manpower utilization. This small committee is undertaking: (1) A manpower audit to see as nearly as possible mathematically just what is needed to meet schedules; (2) a study of wage incentive plans; (3) a study of detailed operations in each plant to determine whether better methods of handling labor and simplifying work can be devised. The best ideas of all plants will be made available to each one. In Los Angeles, a Citizens' Manpower Committee is using air raid wardens to distribute questionnaires to all homes and interview at least one member of each household in connection with recruiting of new plant employees. The U. S. Employment Service follows up on the basis of questionnaires and interviews. Consolidated Vultee at San Diego for some time has been hiring soldiers and sailors for plant work in their off-duty hours, and to date has utilized more than 1,000 service men in this manner.

**Ship Owners' Plans:** Following up the advice of the Council for British Shipping to prepare proposals for air routes for presentation to the Government, five companies operating South American services are forming a separate company for the purpose of operating air routes between the United Kingdom, Europe and South America. They are Royal Mail Line, Ltd., Blue Star Line, Ltd., Pacific Steam Navigation Co., Booth Steamship Co., Ltd., and Lamport & Holt Line, Ltd. The British Government apparently has not yet decided what role British Overseas Airways Corp. will play, and growing pressure from the shipowners is expected to be hard to resist.

**British Plan:** An international regulatory body for post-war commercial air transport—recommended in high Government quarters both in the United States and the British Empire—should "be intimately associated with and responsible to a postwar United Nations police force, according to a report by Lord Beaverbrook, Lord Privy Seal, to the House of Lords. Recommendation for an international "Civil Aeronautics Board" was made at a recently concluded Empire conference in London but is still subject to approval by Empire Governments before becoming an Empire policy. An identical recommendation is made in the report of the Interdepartmental Aviation Committee in the United States, headed by Adolf A. Berle, it was learned during the fortnight.

**Behind the Lea Bill:** More than aggrandizement for the Civil Aeronautics Authority is behind the Lea bill's provision to make it an independent Commission. Congressional spokesmen consider it a move to stabilize civil aviation's Washington agency against political winds. A purpose of Congress in creating independent executive agencies is to divorce their administration from politics. Government departments, on the other hand, are subject to political controls. Congress has provided long-terms of office for the governing personnel of independent agencies and terms which overlap political administrations, so that new political administrations can only gradually and over a period of years change the personnel composition of the independent agency. Congress has created six such independent agencies. The only one which has been reverted to Department control is the Civil Aeronautics Authority, it is pointed out in legislative circles. While the CAA remains a part of the Commerce Dept., it is said to stand subject to political manipulation, open to having the independence, which Congress intended it to have, destroyed if and when the Department sees fit to exercise its power to control: (1) CAA's personnel except for the top stratum appointed by the President, and (2) CAA's budget—CAA's budget requests must funnel through the Department.



*Most far-sighted airport plan yet developed for the Southwest is this Oklahoma City project.*

# What is missing in this picture?

Missing to the eye . . . but a vital part of this super airport, and every other modern airport and airline . . . is the radio traffic control equipment without which the landing and take-off of planes would become a hopeless jumble. Missing, too, are the radio navigational aids—ranges, markers and communication transmitters and receivers so necessary to the guidance of flight.

In peacetime, RADIO RECEPTOR, in conjunction with the Civil Aeronautics Authority, played an important role in equipping airlines, and airports such as the La Guardia and Washington National Airports. In wartime, we have supplied the Signal Corps with equipment which is now in use in

more than 180 airfields in the United States . . . and we don't know how many in foreign lands.

*Send for a copy of our non-technical booklet, "Highways of the Air"—you'll find it interesting.*

*"Laymen are inclined to think of an air route as simply a corridor of air through which planes commonly fly. But it is more than that. It is, first, a system of air fields, each of which, wherever it may be, must have runways and radio and other communications. In laying out an air route and the fields along it, a complete system of communications, from point-to-point and from ground-to-air, along with radio beacons and other navigational aids, must be set up."*

—MAJOR GENERAL HAROLD LEE GEORGE  
Commanding General, Air Transport Command



*Awarded for Meritorious Service on the Production Front*

**Radio Receptor Co.**  
INCORPORATED

251 WEST 19th STREET

NEW YORK 11, N. Y.

★ SINCE 1922 IN RADIO AND ELECTRONICS ★

# Lightweight Auxiliary Power

for the HEAVYWEIGHT CHAMPIONS



Model 20A

#### Other Lawrance Models:

In addition to the unit shown above, there is a Lawrance Auxiliary Power Plant to meet every Auxiliary Power need. Ranging in size from 2 to 5 cylinders, and in output from 5 to 15 KW, these Auxiliaries are in service today with our fighting forces of land, sea, and air. Write TODAY for illustrated folder.

**120 POUNDS**—The Lawrance Model 20A, engineered to save vital space and weight, combines power and performance in a 120 pound unit only 30 inches long, 21 inches wide, and 17 inches high.

**7½ KW**—A continuous power rating of 5 KW, plus a 7½ KW overload rating, is an outstanding feature of the Model 20A. Vibration-free performance is insured by the high operating RPM of the 15 horsepower, two-cylinder engine.

**DEPENDABLE**—The Model 20A, now in service with the famous Boeing Flying Fortresses and Consolidated Liberators, supplies a steady and dependable flow of electric power to operate gun turrets, radio, bomb hoists, main engine starters and other vital equipment.



# Lawrance AUXILIARY POWER PLANTS

LAWRENCE ENGINEERING AND RESEARCH CORPORATION • LINDEN, NEW JERSEY, U. S. A.

## Editorial

(Continued from page 1)

uring rod by which progress and development are chalked up. That measuring rod must be within the United States itself, where aviation has its greatest single opportunity to bring better living to its users and customers.

Long have we advocated American airliners circling the globe under American private enterprise. Long have we envisioned the United States taking a greater part in the field of global transportation. But in so doing let it be realized that the primary job of expansion is right here at home and that global aviation is an offshoot, not the mainspring, to expansion in the air.

Temporarily the attention of the nation has been diverted by the war from our own national problems and outlook. But once the war is won, our attention will once more go inward into the continued development of our country. In this we will be joined by our neighbor to the north, Canada, which has before it a great period of expansion in the areas of the west. Here in the heart of this vast continent lies aviation's greatest opportunity.

First things come first.

### Need for a Man

THE aircraft industry is hoping the President will not accept WPB Vice Chairman Charles E. Wilson's resignation and there is now good reason to believe Mr. Wilson is being persuaded to remain at his post for awhile longer. One can readily understand his desires to return to private industry. But the war effort has greater need of him in Washington.

Contrary to some ill-informed sources, the real reason for Mr. Wilson's continued presence in Washington is not to assume charge of conversion to peacetime industry, but to finish up the production job. The problems of conversion are to be handled by Donald Nelson, while Mr. Wilson is needed to complete the vast production program which he has so ably handled up to the present.

Mr. Wilson is rare in the Washington picture. He brought together for the first time the warring elements of government (manpower, housing, Federal Works, etc.), and he has maintained a fine balance between WPB and the Army. He has been a highly useful buffer between industry and the Truman Committee. Although he was not faced with some of the toughest battles, solved by his predecessors, he deserves the highest thanks for a job well done. It is very pleasing to know that he is likely to accede to the President's request that he stay at his post for "a little while longer."

### Historical Exhibit Needed

FOR some years Charles H. Babb, known around the world as a used airplane dealer, has been trying to interest the air transport industry and other

groups in assembling a permanent historical exhibit of aircraft depicting the progress of scheduled air transportation.

It is a worthy idea. It should be followed up before it is too late. The old "crates" of the earlier days are rapidly disappearing and what a shame it will be if, when air transportation celebrates its 25th or 50th anniversary, there is no permanent display available in this country.

It is a cooperative enterprise for the Air Transport Association and the aircraft manufacturers. The first step would be to compile a list of each type used in scheduled air transport since the first regular service was inaugurated in 1926. It will not be easy to find a model of each type, some probably being extinct. But if the project is undertaken now, as it should be, most of the old types can be found somewhere. It will not be easy to find a suitable location, but the government might well cooperate in providing such a site in the national capital. In any event this is a project of enormous educational and historical value which the airlines and manufacturers could well afford to launch even in these times. At least a start can be made. Five years from now will be too late.

WAYNE W. PARRISH

### A Smart Questionnaire

Finding out what the traveling public wants in the way of comforts and conveniences in its postwar airliners is a smart idea. American Airlines has undertaken to find some of these answers. It has distributed—widely, we hope—a very smart, well thought-out questionnaire asking the public a number of important questions, covering everything from whether all first-class mail should travel by air to whether you'd like to have cocktails served during flights. Persons in both the manufacturing and the airline businesses are busy figuring out what the postwar airliner should be like. The Air Transport Association has a committee at work on future aircraft requirements. American is to be commended for attempting to find out what the man in the street—tomorrow's air traveler—wants. The answers, if intelligent, could well affect airplane design, as well as passenger service.

### Worth Bragging About

Pan American Airways and TWA were permitted to reveal last fortnight the number of trans-oceanic crossings they have made for the armed services. TWA claims 1,100 trans-Atlantic trips, Pan American 5,000 trans-oceanic crossings, including 2,733 Atlantic trips. These are records worth bragging about. They give some small idea of the part being played by the airlines—all the airlines—in the war effort. And it's about time they were allowed to blow their own horns a bit.

ERIC BRAMLEY

This advertisement is one of a series which will appear in national magazines and newspapers this year as Consolidated's contribution toward a clearer public understanding of "aviation geography."



## Snowplows in the sky

ONLY A YEAR OR SO AGO, air-minded men used to talk about hauling tons of freight by air — someday. *Today they are doing it.*

The great planes of the Air Transport Command are flying the global skyways with tons of *everything* our world-based fighting men need so badly — even snowplows for blizzard-locked Alaskan airports, and complete gasoline trucks, cut in half for shipment and welded together again at their destination.

Cargoes flown, with destinations and flying time, have included medical supplies to North Africa, 27 hours — bomb fuses to Britain, 17 hours — aircraft engines to China, 37 hours —

blood plasma to Australia, 35 hours — ammunition to India, 43 hours — mail to Iceland, 13 hours — precision tools to Russia, 24 hours.

The whole story of the magnificent job these airmen are doing cannot be told until after the war. To tell it now — even if we could — would endanger the lives of men and reveal military strategy.

Today these trans-oceanic fliers are making schedules — not headlines. It's a routine job to them — flying each high-priority cargo to the spot where it will do as good and the Axis harm.

*Often that spot is halfway around the world.*

But to Air Transport Command

pilots, *no spot on earth is more than 60 hours' flying time* from the military airports "somewhere in the U.S.A." from which they operate.

On their timetables these pilots clock off the Atlantic and the broad Pacific like locomotive engineers. One Liberator Express was in the air only 33 hours and 27 minutes from the time it left Australia until it came down in California. Another flew from Newfoundland to Britain in 372 minutes. And a pilot on the New York-Lisbon run recently made 12 crossings in 13 days.

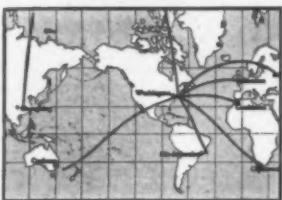
So it's too late, now, to wonder when the Air Age will come. *It's already here.*

# CONSOLIDATED VULTEE AIRCRAFT

And it's still too early for rash speculation about what the postwar years of the Air Age will be like. Our job today is to win the war so that there will be a postwar world worth living in.

But the impact of air supremacy in winning this global war points more clearly, every day, to this fact:

When Victory has been won, air power, in the hands of the freedom-loving nations of this 60-hour-wide world, can well become "the strong right arm of peace."



MERCATOR PROJECTION

Our old maps do not always give us a true picture of the new "aviation" geography. If a Liberator Express pilot tried to chart a Washington-Chungking "great-circle" route on a Mercator projection (above), he would find that it disappeared off the top of the map!



AZIMUTHAL EQUALISPACING PROJECTION CENTERED ON WASH. D. C.

Maps like this enable us to show great-circle airline routes from Washington to any spot on the globe as a straight line. Such a map can be drawn so that it is centered on your home town or any city.

#### CONSOLIDATED VULTEE AIRCRAFT CORPORATION

San Diego, Calif. • Vultee Field, Calif.  
Fort Worth, Texas • New Orleans, La.  
Nashville, Tenn. • Wayne, Mich.  
Allentown, Pa. • Tucson, Ariz.  
Elizabeth City, N.C. • Louisville, Ky.  
Dearborn, Mich. • Miami, Fla.  
Member, Aircraft War Production Council

LIBERATOR (4-engine bomber) — CORONADO, CATALINA, (patrol bombers) — LIBERATOR EXPRESS (transport) —  
VALIANT (basic trainer) — VENGEANCE (dive bomber) — SENTINEL ("Flying Jeep") — RELIANT (navigational trainer)

#### QUICK FACTS FOR AIR-MINDED READERS

**10 planes on hour** — It is estimated that U. S. aircraft manufacturers are now turning out planes at a rate of about 1 plane every 6 minutes, around the clock, every day of the month.

The danger of ice formations on airplane wings has been completely overcome, according to a statement by TOM M. GIRDLER, Chairman of the Board, Consolidated Vultee Aircraft Corp. This feat is accomplished by a new thermal anti-icer, pioneered by the N.A.C.A. and perfected by Consolidated Vultee. Hot exhaust gases now are used to keep all leading edges of the plane at a temperature well above freezing when icing conditions are encountered.

**Teamwork for Victory** — Consolidated Vultee was the first to build multi-ton bombers in volume production on a moving assembly line. To help maintain Allied air supremacy, the Consolidated-designed Liberator bomber is also being built by Ford, Douglas, and North American.

To speed production, more than 10,000 subcontractors and suppliers, in cities all over the U. S., are working to provide sub-assemblies, parts, and materials for the planes being built in the Consolidated Vultee plants.

**Tomorrow's Badgling** — Elementary aeronautics is now being taught to students in more than 14,000 American high schools.



"*Born today, here tomorrow!*" — This 33-ton, 4-engine Coronado, under way for the take-off, has a range of over 3500 miles — can remain aloft a whole day at a time. Designed and built by Consolidated Vultee, this giant Navy patrol bomber is also in service as a cargo transport plane.

**Note to plane spotters** — This is the new insignia for U. S. Army planes. The change provides visibility at 60% greater range, and overcomes confusion between our former insignia and the insignia used by Axis planes.



**No spot on earth is more than 60 hours' flying time from your local airport**



**In their war paint** — Before Liberator bombers go to war, they are camouflaged and fitted with special equipment for the combat area where they will be operating. Above: White-bellied Liberators move down an assembly line in a modification plant.

"Ghyll Glen"  
Westmoreland (Depot)  
New Hampshire

November 19, 1943

To the Editor:

I notice, according to a box announcement on page 20 of your October 15th issue that Mr. Orville Wright considers returning his Kitty Hawk biplane to the United States now that officials of the Smithsonian Institution have reversed their decision as to who made the first successful heavier-than-air flight.

I had always been under the impression that the Wright biplane now in the South Kensington Museum in London, is only a reproduction of the original machine—with the exception of the engine.

As I understand it, the machine was wrecked after the flights of December 17, 1903, as a result of a bad landing and it was packed up and taken back to Dayton, Ohio. There it was placed in the cellar of the Wright Brothers shop.

In the meantime British scientists became interested in the effort of the Wrights and the South Kensington Museum officials sent Mr. Griffith Brewer to the United States with an offer of a prominent position for the biplane in the noted London museum. The Wrights were naturally receptive to the offer at the time and agreed willingly. However, when the dismantled machine was inspected it was discovered that a flood which had swept through Dayton a few months previous had completed the destruction the bad landing of 1903 had begun. In spite of this, Orville Wright agreed to construct another model for exhibition purposes and in a few months a "copy" of the original Kitty Hawk biplane was built and sent over to England. The same sewing machine used to stitch the fabric on the original was used on the replica.

I wonder if Mr. Wright has forgotten this bit of ancient aviation history. The details, if further evidence is required will be found on page 100 of "Aviation of Today" by Messrs. J. L. Naylor and E. Ower, which was published in 1930 by Frederick Warne and Co., of London and New York.

Believing you will be interested in this matter, which seems to have been kept a grim secret on this side of the Atlantic for so many years, I am Sir,

ARCH WHITEHOUSE.

(To get the true facts of the case, AMERICAN AVIATION submitted Mr. Whitehouse's letter to Orville Wright. Mr. Wright's long-time secretary, Miss Mabel Beck, answered as follows: "Nearly all of the parts of the 1903 Wright aeroplane, now in England, are original excepting the cloth covering. The original covering had suffered from mildew and was too frail for further use. Mr. Wright still has the original covering in his possession. Some parts of the machine, particularly the ends of the wing ribs, were broken when the machine was being returned to camp after the last flight. But when these broken parts were repaired the original material was used as far as possible. Mr. Whitehouse's understanding of the history of this machine and of how it got to England is almost entirely incorrect."—Ed. Note).

Chicago, Ill.  
Nov. 5, 1943.

To the Editor:

Since the early days of aviation you have always had a faculty of being on the ball and accurate to the nth degree. However the City of Confusion I am sure has had its effect upon you as it has with all of us during these hectic days. I refer in particular to your excellent editorial in AMERICAN AVIATION under date line of October 15th last entitled "Service to Flyers" in which you refer to the Sportsman Pilots Association in the past tense, also your boost.

For your information S.P.A. is still functioning sans aircraft and will continue to do so throughout the duration. Quite naturally, by resolution of the Association immediately after Pearl Harbor, all cruises have been can-

celled and other functions calling for distance travel. It is interesting to report that membership applications have continued up to this date, and organizational functioning has continued. Likewise on the basis of percentage our membership has contributed a larger number of its members to the active flying forces than any other pre-war flying unit.

CHET. WARRINGTON, Secretary  
Sportsman Pilots Association.

Indianapolis, Indiana,  
Nov. 10, 1943.

To the Editor:

I do not like either bill proposed for national aviation legislation.

Neither do I think it wise to push through some legislation that does not have the people thinking and working on it.

Most of the legitimate representatives of the private fliers are in service.

I have been actively interested in, flown, and owned aircraft for nearly a decade of years. I have also had quite a little experience with the federal bureaus and agencies in this field.

I am perplexed, confused. More time and more expression are needed before any bill on aviation is enacted.

FATHER SOMES,

(Rev. Joseph H. V. Somes, Pastor  
The Church of Our Lord Jesus Christ, King  
1827 Kessler Boulevard, East Drive,  
Indianapolis, Indiana.

Rhineland, Wis.

To the Editor:

In your publication, American Aviation for May of this year you gave me some little credit for helping to correct the program of "utter confusion" Civilian Pilot Training. Thru a great deal of work and finally thru the wonderful help of Senator McCarran a bill was passed that gave the men in this program pay, and at the same time gave them back pay. Another bill was passed, H. R. 2397, that extended the life of Civilian Pilot Training or War Service until June 30th of 1944—but which compelled the Army to call the men from Reserve to Active duty.

This again will bring up the plight of some 10 to 15 thousand men and their desire to be part of the war effort. At the present time, according to the setup from CAA, the funds will take care of the training of some 7,000 men. These men are being trained at present by CAA to become instructors. The men are called to active duty, given basic training and then sent to Flying Schools. As quickly as the men go thru these schools they are sent to the Central Instructors Course at Randolph Field, Texas for more training. Under the plan, when the men have finished the C.I.S. at Randolph they are then returned to their former inactive status and sent out to teach others to fly. Now the problem comes up, as to what we are going to do this coming year. We will have some 7,000 men go thru the course from July 1, 1943 to June 30, 1944—on top of this we will have the present instructors who are teaching these men—some 5,000 to 7,000 in numbers. Then on June 30, 1944 the program breaks up for CPT or WTS or whatever you want to call it, will have no further funds to train men. This leaves us with a pool of between 12 and 14 thousand trained men—and yet no part of the war effort for they will be again on the inactive list. Yet the cost to the public will be some 150 millions and nothing to show for it.

It seems to me that those who are interested in aviation should begin to investigate the purpose of the whole program. If it is designed to spend money and accomplish little—the program has certainly been a success—if the program was designed to break the heart of some 25,000 fine young men—it has been more than a success. As to what it has contributed to the war effort in the last year and a half—I can find nothing except to redistribute public funds.

Sincerely yours,  
BRADLEY R. TAYLOR.

To the Editor:

I have just returned from Edmonton and find that your November first issue refers to some remarks made by me while testifying on behalf of Tri-State Aviation Corporation at the recent feeder pick-up investigation of the Civil Aeronautics Board.

Your interpretation of these remarks has led some readers to believe that as an airline pilot I was recommending the carrying of passengers by pilots with eight hundred to a thousand hours in single engine airplanes under two and three hundred foot ceilings as a safe operation.

While I am amazed that anyone would believe that the holder of an airline transport pilot certificate could have advocated such a patently hazardous operation as being safe I wish to state categorically that I made no such proposal. What I advocated was the lowering of the present five hundred foot minimum terrain clearance requirement so as to permit three hundred foot flight altitude in day contact operation of this proposed passenger-pick-up service. Should you or anyone care to investigate this statement further I am sure that examiners Beitel and Madden, Mr. Grundman who brought up the question regarding modification of present rules, and all others present at the hearing will affirm that this was the impression they received from my remarks and that I have been unfortunately misquoted in this report.

One other point, possibly a misprint, is your reference to my saying that private pilots with two hundred hours are now carrying passengers across the country in charter service; this would be a violation of Civil Air Regulations and my reference was to commercial pilots operating charter services.

I will appreciate your usual courtesy in printing this letter so that my position may be made clear.

JOHN B. BOGART.

St. Paul, Minn.  
November 18, 1943.

To the Editor:

On page 72 of your Nov. 1 issue, there appears a report of certain testimony given at the recent Feeder Hearing by Mr. Joe Bogart recommending certain relaxations in pilot requirements and flight standards. Specifically, Mr. Bogart is reported to have advocated that pilots with 800 to 1000 flying hours be permitted to fly passengers in single engine airplanes with ceilings of 200 to 300 feet. Your article refers to Mr. Bogart as Captain John Bogart of Northwest Airlines, Inc.

Mr. Bogart has never flown as pilot or copilot on any scheduled air carrier operated by Northwest Airlines Inc. or with any other scheduled air carrier in the United States. He has been used as first pilot on some of the wartime government contract operations carried on by Northwest. Furthermore, he has informed the writer that he clearly pointed this out at the Feeder Hearing and did not intend that his testimony should be reported as coming from a Northwest Airlines Captain. He states that his testimony was incorrectly reported by American Aviation and that he did not advocate that pilots with 800 to 1000 hours be permitted to fly passengers in single engine airplanes with ceilings of 200 to 300 feet. I believe he is right yourself regarding this.

Certainly Mr. Bogart has every right to testify in any manner he wishes without public comment from the writer as the representative of Northwest Airlines pilots provided the testimony is not represented as coming from Northwest Airlines Captain when such is the case.

Northwest Airlines pilots will appreciate you correcting this misunderstanding by publishing this letter.

G. F. BEAL,  
Chairman, Council No.  
Airline Pilots Assn.  
420 Summit Ave.  
St. Paul, Minn.

In order to set the record straight, AMERICAN AVIATION has gone to the official transcript of the local-feeder-pick proceedings. At least in one place the official record

(Turn to page 13)

refers to  
testifying  
corporation at  
of the  
s has led  
n airline  
trying of  
ired to  
nes under  
as a safe

would be  
transport  
d such a  
ing safe,  
made no  
was the  
ired fast  
ent so a  
altitudes  
proposed  
u or any  
t further  
Madden,  
question  
ules, and  
will alrea  
received  
been un  
t, is you  
ate pilot  
carrying  
er service;  
Air Regis  
commercial

urtesy is  
ition may  
BOGART.

Minn.  
18, 1942

there a  
given to  
Mr. John  
stations h  
ards. Sp  
ave adv  
ring hea  
single eng  
300 feet  
as Captain  
Inc.

lot or o  
operator  
with my  
the United  
pilot m  
: constan  
Further  
that M  
er Head  
my shou  
west Al  
testimoni  
can Ass  
that pilot  
ated to h  
with on  
is writt

right  
out pub  
resentat  
the iss  
g from  
uch is

eciate yo  
y public  
BEAL  
council No  
pilots A  
uit Aven  
Paul, Min

nt, AMER  
the offic  
proces  
cial recor

1942



*The B.F. Goodrich Airplane of the month*

## NORTH AMERICAN MUSTANG

**Sicily surprise . . . the A-36 . . . our Army's newest attack bomber!** Dispatches told the story of its sensational débüt—a story of roads piled high with Axis trucks, ships afire and sinking, power stations blasted . . . and consternation in the ranks of the Luftwaffe. For this newest version of the famous North American Mustang can bomb with the best and then fight its way back.

B. F. Goodrich products fly on sky

fronts all over the world. Silvertown Tires help our planes off with heavy bomb loads. And B. F. Goodrich Bullet-Sealing Fuel Cells protect our pilots . . . help bring them home through storms of ack-ack and swarms of Axis fighters.

As a richly deserved salute to this newest thorn in the Nazi side, we nominate the North American A-36 "Plane of the Month."

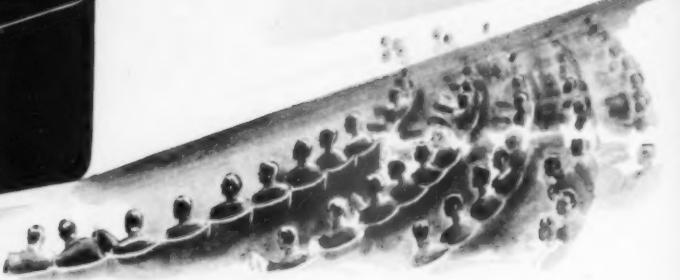
*In war or peace*

**B.F.Goodrich**

FIRST IN RUBBER

B. F. GOODRICH TRAINING FILMS FOR THE

*Airation industry*



**NOW AVAILABLE FREE . . . NEW  
16-MM. SOUND MOVIE, "AIRCRAFT DE-ICERS"**

**Plan now to use this interesting film in  
your visual training program**

Never before has such a complete training aid been prepared on the subject of Aircraft De-Icers. This new sound motion picture is crammed with important facts, yet all are presented in the easy-to-get manner which spells success in any training program.

For maximum ease of presentation, the film is divided into four parts. Each is complete in itself so that you can select the De-Icer information you want to put across and leave out any part not pertinent to your program. These parts and their running times are as follows:

**PART I "Ice Formation and De-Icer Operation"—23 minutes**

This section deals with the various types of icing conditions encountered and the three basic types of ice formation. Typical working De-Icer sections are shown and described in detail.

**PART II "Inspection and Maintenance of De-Icers"—24 minutes**

This section presents the maintenance and operation story clearly and concisely. The facts on repair and inspection procedures portrayed are bound to be reflected

in greater service and efficiency from your De-Icer equipment.

**PART III "Removal and Storage of De-Icers"—12 minutes**

Though shorter than the other sections, Part III is vitally important. It shows the proper removal and storage procedure carefully and interestingly, step by step. All personnel connected with this phase of De-Icer servicing can get valuable aid from this film.

**PART IV "Installing De-Icers"—28 minutes**

In this section, the De-Icer installation story is told in complete detail with clear motion pictures and easy-to-understand comment on every step. Showing this section will give your men the know-how needed to install De-Icers quickly and efficiently.

Prints of any or all parts of this film are available for Army and Navy Training Centers, schools, airlines, and aircraft manufacturers. The films are loaned without charge, but because of the limited number of prints available, the loan period must be restricted to two weeks, unless unusual circumstances warrant an extension.

All civilian requests should be filed with The B. F. Goodrich Company, Akron, Ohio. See order form at right. Army and Navy Air Corps requests should be filed as indicated under "Note" in order form.

**MAKERS OF B. F. GOODRICH TIRES AND OVER 80 RUBBER  
AND SYNTHETIC RUBBER PRODUCTS FOR AIRPLANES**



THE KEY TO FASTER DE-ICER TRAINING

# FILMS THAT MAKE IT INTERESTING



THE THOROUGH WAY the film "Aircraft De-Icers" covers the subject is indicated by these excerpts from typical sequences. Trainees will gain valuable know how from the interesting step-by-step treatment and the clear, to-the-point commentary. Fill out the handy order form below and mail it today to make sure you'll be able to show this film at an early date.

The B. F. Goodrich Co.  
Aeronautical Division  
Akron, Ohio

**\*NOTE:** Film requests of Army and Navy Air Forces must be filed as follows: Army—address requests to Training Aids Division, Army Air Forces, 1 Park Avenue, New York 16, N. Y. Navy—address requests to Commandant of your own Naval District, Attn.: Training Film Officer.

GENTLEMEN: Please send me the following part/parts of the 16-mm. sound film "Aircraft De-Icers" for showing on the date indicated below. I understand this film will be loaned free of charge for a two-week period.

PART 1

PART 2

PART 3

PART 4

FOR SHOWING (GIVE DATE) 1ST CHOICE \_\_\_\_\_ 2ND CHOICE \_\_\_\_\_

(ORGANIZATION)

(YOUR NAME)

(STREET ADDRESS)

(CITY)

(STATE)

# Here's the secret of FASTER "BLIND" FASTENING

## USE DUAL-PURPOSE B.F.GOODRICH RIVNUTS AS BLIND RIVETS OR NUTPLATES OR BOTH!

If you use "blind" fastening in any fabricating operation, chances are you can use B. F. Goodrich Rivnuts to great advantage. These internally threaded tubular rivets can be pulled up while working entirely from one side. A bulge or head is formed on the under side of the work which is large enough to resist being pulled through the skin even under heavy load.

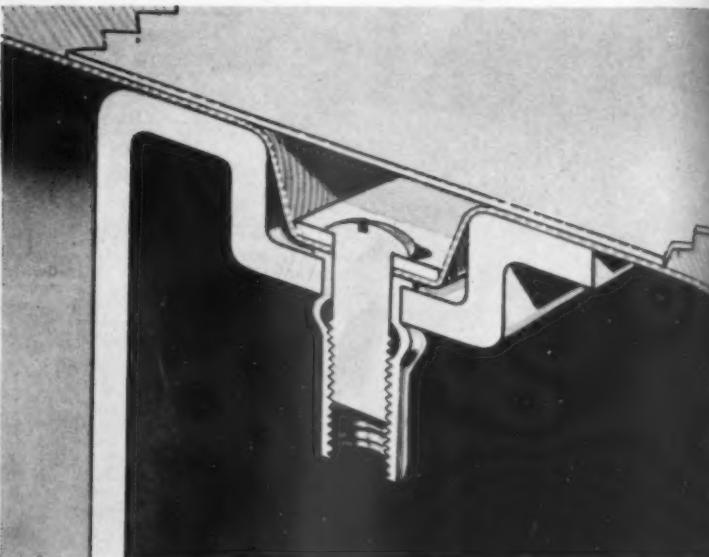
### LOOK AT ALL THESE FEATURES

The Rivnut is the only one-piece blind rivet that can be used as a nut plate after installation. It is light in weight, low in cost, simple to install. Rivnuts may be inserted in a smaller hole in the skin due to their compact design. When upset, they fill the hole in the skin and have a spring effect under load. In addition, Rivnuts have a wider bearing area than any other blind fastener. Three screw sizes and a complete range of grip lengths make them ideally suited to many uses in secondary and, in some cases, primary structure.

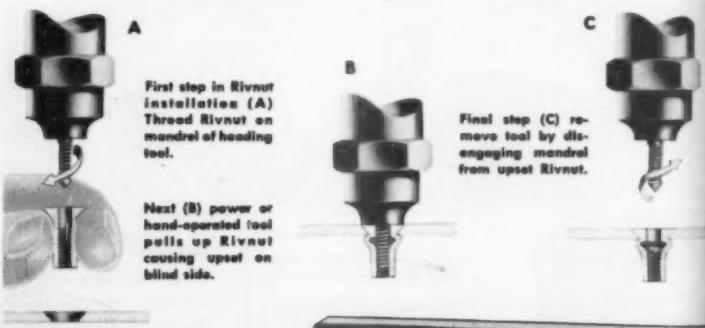
### RIVNUTS AVAILABLE NOW FOR PROMPT DELIVERY!

Facilities for manufacturing Rivnuts have been greatly expanded to accommodate the growing needs of aeronautical and allied manufacturers. This added capacity should make it possible for us to fill all normal orders promptly.

FOR FREE BOOKLET containing data on Rivnut types, sizes, grip ranges, strength and weight, write today (on letterhead, please) to The B. F. Goodrich Company, Aeronautical Division, Akron, Ohio.



TYPICAL USE OF RIVNUT AS A NUTPLATE is shown here in a cloth-covered control surface assembly. B. F. Goodrich Rivnuts can be installed in metal, plastic, or suitably reinforced plywood air-foils.



*In war or peace*  
**B.F.Goodrich**  
**FIRST IN RUBBER**

## Letters

(Continued from page 12)

was in error, describing Mr. Bogart as vice president of Northwest Airlines. **AMERICAN AVIATION** said he testified as vice president and director of Tri-State Aviation Corp, not as Captain of Northwest.

On Page 1198 of the official transcript of the testimony for Oct. 14 is found the following: Statement of John Bogart, vice president, Northwest Airlines. Mr. Bogart: "My name is John Bogart. I am Captain for Northwest Airlines. I have been connected with this flying game since 1938, running a flying school in Cincinnati, the name of which is Tri-State Aviation Corporation... I have spent about 2,000 hours as cross-country instructor and flight examiner for the Administration, up until last summer, when I joined Northwest. I am a director of that company and Vice President." Then referring specifically to airmail pick-up operations where passengers would be carried, Bogart's testimony on page 1206 is as follows: "Now as to equipment. It is my feeling that passengers—once again, as apparently it has been brought out before, passengers can be hauled through a pick-up operation safely and without undue stress on their own fears because pick-up operation is nothing more than an approach for landing and pull-up... I also think for economical operation we are going to have to stick to single engine equipment and one pilot with the apparent trend of airline rates to be reduced to approximately first-class rail travel or below, to 2½ or 3 cents a mile."

Under cross-examination of Public Counsel V. Rock Grundman, Bogart testified as follows on page 1212: "I think that it is appropriate that in some instances the airline ticket should be made more stringent for airline operation; permit the issue of junior rating, for example, for this pick-up type of service, requiring, say, 800 or 1,000 hours, so that you can take in some of these boys coming back from the combat zones who may not have more than 500, or 600 or 800 hours. It is not how many hours you have, it is what kind of hours, that counts, and the work of those coming back with 600 or 700 hours is going to make them much better qualified to fly cross-country under marginal weather conditions than a lot of fellows who stay at home and have flown three or four thousand hours in Cubs or Stearmans.

Mr. Grundman: "You would not lower the requirements for passenger flights on these feeder lines, would you?"

Mr. Bogart: "Yes, for day contact. If there has been no regulation up to the present time, surely we can say that aviation is getting safer as we go along and if from 1938, from the passage of the Act, until the present time, anybody with a commercial ticket and 200 hours can haul somebody from Cincinnati to Miami, Fla., across the mountains, without even instrument rating, and no knowledge of meteorology, sometimes without radio in the airplane, and get them there in a reasonably fair percentage of the time, I don't see why you have to have such stringent regulations for day contact passenger carrying."

On Page 1210, in answer to Grundman's question "In connection with this single-engine, single-pilot plane, would it be your thought to just conduct contact operation or include night and instrument?" Bogart replied: "No night and instrument. I think contact operation should be reduced considerably for this type. In the case of All-American, the 500 foot minimum ceiling has been stressed. I think a 300 foot ceiling is safe—1,000 foot ceiling. Pardon me. Your 500 feet above the ground for contact flying is not neces-

**SKY MASTER, THE STORY OF DONALD DOUGLAS.** By Frank Cunningham. 321 pages. Illustrated. Dorrance & Company, Philadelphia. \$3.00.

Here is a biography, not only of the vigorous and dynamic Donald Douglas, but of his contemporaries who started out with convictions and insight into the future of aviation and who developed the great armada of American aircraft which is in the air today. The life of Douglas is inspiring, amusing, educational and revolutionary, and Cunningham had the technique of developing the story of aviation around one of the greatest men in the field. The author probed the sports, movies, fashions, etc., of the 1900's for the background in which Douglas lived and worked, creating a novel-like story as well as an authentic picture of the "human" engineering genius.

After a sturdy academic foundation, aeronautical engineering became Douglas' one great interest. Through World War I he was with Glenn L. Martin in his airplane plant, adding continually to new developments in fighters. Breaking from a \$10,000 a year job, he headed for California. There, through David R. Davis, he got his start in a six-months' contract to build a single private plane for the financier. His ingenuity and stamina were admired by Jim Goodyear, Ross Elkins, George Strompl and other pioneers, for they joined his tiny company in a barber shop office and rose to be leaders of America's powerful industry. As aviation was dubbed a dying industry following the first war, other struggling men became connected with Douglas... Doak, Raymond, Kindleberger, Northrop.

With the boom days came astounding expansion, government contracts, lavish private accounts, which all built up the great Douglas plant of today in Santa Monica, California. Airlines bought Douglas planes with incredible speed... the best advertisement for any aircraft company... and their dependability proved true by the continuous record-breaking achievements they made.

Entertainment, education, inspiration... the reader will find all these attractions in this "must" book in aviation literature.

—E. B. H.

**GIRLS AT WORK IN AVIATION.** By Dickey Meyer. Illustrated. 209 pages. Doubleday, Doran & Co., New York. \$2.50.

The "minute women" in American aviation have chosen work in production, engineering, designing and drafting because they are capable of handling such jobs and have proven their worth in the technical field, this book reveals. The book summarizes aviation vocations, qualifications, and results of individual achievements of women in aviation jobs. Newer fields—meteorology, radio transmitting, and photography—have been invaded by women, and many expert fliers have become duration instructors, initiating cadets in flying tactics. Some women are qualified to teach blind flying, others are fully entitled to wear the silver wings of the Air Transport Command WAFS through expertise in handling large craft which must be ferried from factory to airfield, it discloses.

This book is instructive and looks into the future aviation world through intelligent de-

sary. A lot of our flying up north and a lot of Army transport flying is done at 100 to 200 feet, when we get down out of the mountains and there is no occasion to stay that far up there in flat, level country, if you do not stir the cattle too much... I feel all the pilots should, of necessity, have instrument rating so that they can pull up and get home... I do not recommend any night operation with passengers, with single engines."

duction to foresee that women have found another profession in which they can distinguish themselves by adding to its development.

—E. B. H.

**AIRCRAFT IDENTIFICATION FOR FIGHTING AIRMEN.** By Squadron Leader G. E. Wilson. David McKay Co., Philadelphia. 190 pages. \$1.50.

Squadron Leader Wilson, an instructor in aircraft recognition, found that most students had difficulty visualizing aircraft in various flying positions from two dimensional black and white silhouettes. As every aircraft has some unusual feature, he caricatured these as they are actually seen in three dimensional blackboard chalk talks. The system was so successful that he was encouraged to prepare finished drawings of planes on the course of study of the Combined Training Organization of the RCAF and the RAF. The result is this interesting book. The drawings are of a type seldom seen in an identification book and are remarkably well done.

In all, 81 plane types are shown—24 British, 27 American, 25 German and seven Japanese. "You should know all the aircraft in this book," the author states. "You have a button near your thumb and a lot of ammunition in your wings or turret. It is easy to get excited and let a 'squirt' go because it looks something like a German aircraft you seem to remember. It may have some of your friends in it."

**BEFORE YOU FLY; ESSENTIALS OF AERONAUTICS.** 600 pp. Henry Holt & Co., New York. \$2.75.

There are four authors of this impressively-complete book: Pearle T. Robinson, Frederic A. Middleton, and George M. Rawlins Jr., all teachers in Washington, D. C., and Major Joseph W. Phillips, of the AAF. This book is designed for high school textbook use and is, thusly, elemental throughout. It covers everything from history of aviation to explanations of how planes are made, why planes fly, how they are powered, to navigation and communication. It is one of the few good textbooks for high schools published so far.

**MATHEMATICS FOR THE SHEET METAL WORKER.** by Clayton E. Burrell. 200 pp. Pitman Publishing Co., New York. \$2.00.

An instructor at the U. S. Navy Yard in Philadelphia, the author has written a practical and fully applied mathematics text helpful to those in training and in home study alike. He has coupled classroom teaching with practical shop conditions. Sample problems are worked out in detail. All of the material has application in real jobs. The author has taught related trade mathematics to sheet metal apprentices of the Naval Aircraft Factory, and to students in vocational schools.

**FUNDAMENTALS OF STRESS ANALYSIS.** by Albert Deyarmond and Albert Arslan. 256 pp. Aero Publishers, Glendale, Calif.

This book is based on a course of study taught by the authors under the National Defense Training Program. It is designed to present the subject matter in a simple, practical applied manner. The authors (Mr. Arslan is stress engineer for Vultee Aircraft Corp.) assume that the student is already familiar with elementary drafting and blue print reading. The student should have prerequisites consisting of a regular course in mathematics which includes elementary trigonometry and preferably the basic principles of calculus.

**BASIC PHYSICS FOR PILOTS AND FLIGHT CREWS.** by Dr. E. J. Knapp. 116 pp. Prentice-Hall, Inc., New York. \$1.65.

The author is professor of mathematics and physics at the Texas College of Mines. The book is designed primarily to give as speedily and yet thoroughly as possible, the fundamental physics required by all aviation-training branches of the armed services—to the gunner, the navigator, the bombardier, the pilot, and other plane personnel. The book is based on a course of study at Texas College of Mines and other institutions, and follows the outline issued by the CAA. Elementary enough, it can be used as a self-study course by any pre-flight cadet. The subject matter is helpful to those in meteorology, flight operations, and engine operations.

To-morrow

**VICTORY**

and Peace

Our Christmas message is concerned with To-morrow... and all that it means. This hour... this day brings up the ultimate question, "What for To-morrow?"

All of the To-morrows depend on our efforts to-day, and the Destiny of this and the next generation depends on our ability to overcome all the grave problems which face us hourly.



This is a test of our endurance. The Blood, Sweat and Tears of all of us, the unity of purpose and the determination of a free people, will maintain the peace and the liberty of our way of life. The Reynolds organization re-dedicates itself to this task.



BUY WAR BONDS

# Reynolds Plastics

REYNOLDS MOLDED PLASTICS

CAMBRIDGE, OHIO, U. S. A.

REYNOLDS SPRING COMPANY

JACKSON, MICHIGAN

## Postwar Plans Outlined by Air Committee

### Favors Competition; Opposes Government Ownership of Airlines

DETAILS of official Washington's first outline for postwar international commercial aviation seeped from the "inner circle" during the fortnight and were verified by authoritative sources.

The information was based on the recommendations made in the report of the Interdepartmental Aviation Committee, headed by Assistant Secretary of State, Adolf A. Berle.

The position of the 16 domestic airlines for competition in the foreign field, it is said, was favored in the report.

Key Washington aviation officials predicted that the President "within the next month" would clarify his first sketchy proposal for postwar aviation (*American Aviation*, October 15), hinted that his position is likely to coincide generally with the recommendations of the Interdepartmental report.

CAB Chairman L. Welch Pogue's speech during the fortnight before the New York *Herald Tribune* Forum unfolded plans for postwar international aviation paralleling those attributed to the report. Pogue is a member of the Interdepartmental group which has been at work for the past several months.

Following are the Committee's important recommendations, it was learned:

(1) Establishment of an international body, analogous to the CAB in the United States, to regulate and control postwar global aviation, replacing the existing International Commission on Aerial Navigation set up after the last war;

#### Airport Authority

(2) Creation of a United Nations Airport Authority for financing and administering airports of special international importance, particularly at isolated localities;

(3) That American domestic aviation companies be allowed to compete in international air transport;

(4) That Government ownership of U. S. commercial airlines be carefully avoided;

(5) Reciprocity for commercial air entry and transit rights between this country and its Allies, but the obtaining of similar rights in major enemy nations without granting them reciprocal air rights in the Allied nations;

(6) Rights of transit and technical stop (for refueling and servicing) for U. S. commercial planes should be obtained from as many countries as possible, by negotiating multilateral agreements, with the effect that airliners can fly over any nation except in certain pro-

hibited areas and can land at designated airports for repairs and refueling, without the right to take on or discharge traffic.

(7) Bilateral agreements should be negotiated with respect to airfields built abroad during the war with U. S. funds and this nation should insist on general rights of transit, technical stops and commercial entries;

(8) Internationalization of airlines should be adopted only in exceptional cases;

(9) International conferences on postwar aviation should take place as soon as possible;

#### Special Facilities

(10) Special facilities should be set up by the Government for research and preparation of necessary data in connection with proposed United Nations aviation conferences.

Members of the Committee, in addition to Pogue and Berle, are: Under Secretary of Commerce, Wayne Chatfield-Taylor; Assistant Secretary of War for Air, Robert A. Lovett; and Assistant Secretary of the Navy for Air, Artemus L. Gates.

A "working" subcommittee is chairmanned by Pogue and includes: Thomas Burke, chief of the Division of International Communications of the State Dept.; William A. M. Burden, special aviation assistant to the Secretary of Commerce; Army, Navy, and Budget Bureau representatives.

Several members of the committee have been and will be called to testify before the Senate Commerce Committee, which is holding important hearings on postwar aviation. (See story in adjoining column).

## Aviation Calendar

Dec. 2-4—National Aviation Training Association annual convention, St. Louis.

Dec. 2—Annual meeting, Aeronautical Chamber of Commerce of America, Inc., 10 a.m., Statler Hotel, Washington, D. C.

Dec. 17—Wright Brothers Lecture and dinner, sponsored by Institute of Aeronautical Sciences, National Aeronautic Association, Air Transport Association, and Aeronautical Chamber of Commerce, Washington, D. C.

Dec. 17—Observance of Kitty Hawk Day in North Carolina, 40th anniversary of Wright Brothers flight.

Jan. 25-27—Twelfth Annual meeting, Institute of the Aeronautical Sciences, Columbia University, New York City.

### Senate Committee Opens Important Aviation Hearings

(See picture on page 1)

Assistant Secretary of State Adolf A. Berle opened what promises to be a long series of hearings on postwar commercial aviation by the Senate Commerce Committee, during the fortnight.

Prior to Berle, the Committee heard reports by two of its own members—Sen. James Mead (D., N. Y.) and Sen. Ralph O. Brewster (R., Me.)—on the matter of postwar foreign air bases. Following Berle, CAB Chairman L. Welch Pogue and Air Policy Committee's president, S. J. Solomon, testified at separate sessions.

The general consensus of opinion of members of the Commerce Committee, indicated to *American Aviation*, is that there should be no concrete legislative action on commercial aviation until the cessation of hostilities. The present plan of the group appears to be to conduct extensive hearings and be prepared when the war ends—or ends in the European theater—to enact or approve at a moment's notice, comprehensive legislation or agreements which will embody both domestic and foreign phases of aviation.

Members of the Committee indicated that the President is also of the opinion that no policy on aviation should be adopted until the war ends and more is known of the postwar world.

In view of this, the Committee planned questioning Pogue on his position that existing law compels the CAB to act on foreign route applications as soon as the war program permits "regardless of when the war ends". CAB could not act on foreign route applications without, in effect, establishing the nation's postwar policy, it was pointed out. Sen. Pat McCarran (D., Nev.), a member of Senate Commerce Committee, has openly challenged Pogue's stand and other members of the Committee appear to support McCarran's position.

The assurance the President has given the Committee that no Executive agreements will be made with reference to post war foreign aviation makes the hearings of major importance. Secretary of State Cordell Hull publicly reported to the chairman of the Committee's aviation subcommittee, Sen. Bennett Champ Clark (D., Mo.), last summer that no arrangements would be made without his subcommittee's approval. This means that the Senate Commerce Committee is to be a decisive body in determining the nation's postwar foreign, as well as domestic commercial aviation policy.

# Lea Bill Scheduled for Vote in House

## Fight on Surface Carrier Issue Expected to Mark Debate; Group Seeks to Recommit Bill

By KATHERINE E. JOHNSEN

INCREASING behind-the-scenes manipulations, as the date slated for House action on the comprehensive Lea bill—the week of Nov. 29—drew near, indicated that floor controversy on the bill would be chaotic and confused and not a clear-cut testing of the bill's fundamental policies.

The major issue in the fight, it is unanimously agreed in informed circles, will center around the question of whether surface carriers should be allowed to invade the air field and competition between two different forms of transportation eliminated.

Sponsors of the Lea bill have desired to evade this fight in connection with their bill and to consider the issue separately. House champions of surface carrier entrance to air transportation, however, will, they have announced, push their case.

Two separate aspects of this question will be raised:

1. The entrance into aviation of shipping firms engaged in foreign operations.
2. The entrance of domestic surface carriers—buses, trucks, railroads—into air transportation.

Chairman Schuyler Otis Bland (D., Va.) of the House Committee on Merchant Marine and Fisheries and Chairman Emory S. Land, of the Maritime Commission, have both endorsed the proposal to lift present restrictions and allow U. S. shipping firms engaged in foreign commerce to operate aircraft.

Supporters of this policy, led in the House by Rep. Emanuel Celler (D., N. Y.), argue that if U. S. shipping lines are to compete with foreign shipping lines on an equitable basis they must be allowed to operate planes, because of the foregone conclusion that the shipping firms of all major foreign nations will do so. Our shipping firms must be given similar privileges, they contend.

The other aspect of surface carrier entrance into air transportation—allowing

domestic surface carriers to enter the field—is less forthrightly proposed by its sponsors, the signers of the Minority Report on the Lea bill. This group is led by Rep. B. Carroll Reece (R., Tenn.), and sponsored his substitute bill for the Lea bill.

They cloak their proposal under the guise of the name of "coordinated" transportation. It is commonly called "transportation integration".

They advance their proposal by purporting to end an airline "monopoly" by opening the field to "all comers". This is regarded in aviation circles as mere shadow-boxing, since the Reece group makes no attempt to demonstrate how allowing railroad interests—the most powerful in the transportation field—to extend their power still further will remedy monopolistic conditions and tendencies toward the concentration of business.

### Proposal Confused

They confuse their proposal by tying it in with other arguments against the Lea bill.

The transportation plan embodied in the Reece bill was originally put forward by the Transportation Association of America and the Association of American Railroads. The former organization is a "front" for the latter, according to an official Senate Report. (S. Rept. 26 Pt. 2, 77th Cong.). This plan looks to the ultimate development of a vertical, rather than a horizontal transportation system: to the establishment of systems which would control all rail, highway, air, and water transportation over designated geographical areas, as op-

posed to a transportation system organized on a national, horizontal scale with different media kept competitive.

These two associations suggested to the Board of Investigation and Research—Transportation that legislation creating such "integration" of transportation be recommended. Their suggestion failed to carry with the Board. Instead, information on the recommendations was turned over to Thurman Arnold, then head of the Justice Department's Anti-Trust Division, who gave the plan a severe lashing before the Senate Interstate Commerce Committee last summer.

The prime legal block to transportation "integration"—prohibitions on joint control of competitive transportation media—would be overcome by enactment of the Reece bill, with reference to transportation. The railroads could then "integrate" with the airlines.

"Fascist," Arnold labelled the proposed "transportation integration," in testimony before the Senate Interstate Commerce Committee, and declared:

"The program is avowedly one of planned scarcity for transportation; it avowedly seeks to eliminate all effective competition in the transportation industry; it is designed to protect the railroads' investments regardless of the economic cost to the nation."

Arnold pointed out that an "integrated" transportation system would be dominated by the railroads, because they are the giants in the transportation field. Such a system, he maintained, would not only give railroads power over their competitors in transportation, but would also give them the power of "life or death" over every community in the United States. "Their rate policies would determine the location of industry, the sources from which raw materials would be drawn, the markets to which finished products would move, the possibilities of shifting population and industry and the employment opportunities for a large portion of the working population."

Despite the public denunciations of transportation "integration" by Arnold, Vice President Henry A. Wallace, and others, sponsors of the Reece bill intend nevertheless, to put their proposal to a test in the House.

### Reece Bill Unheard

No hearings have been held on the Reece proposal. The Senate Interstate Commerce Committee reported to the Senate in the fall of 1941 on the legislative activities which have "been considered one of the primary functions of railroad organizations".

"Railroads . . . have referred Congressional hearings as 'largely matter of scenery'."

As this issue went to press however there was a definite move underway among sponsors of the Reece bill to attempt to have the Lea bill re-committed to Committee, postponing House action on the grounds that adequate public hearings on the measure have not been held. This was viewed in aviation quarters as an indication that backers of the Reece bill have to at least a partial extent abandoned hope of House ac-

(Turn to page 38)

### New Officers of Air Traffic Conference



Officers for 1944 were elected in Kansas City recently by the Air Traffic Conference of America. Pictured are, left to right—Charles E. Beard, Braniff Airways, president; Nelson B. Fry, United Air Lines, first vice president; Thomas Wolfe, Western Air Lines, second vice president; V. P. Conroy, Transcontinental and Western Air, retiring president; and M. F. Redfern, Washington, D. C., executive secretary.

# Big Air Feeder Network Not Needed for Air Mail, P.O. Says

## Walker Reveals Position on Feeder Question

THE Post Office Dept. last night threw cold water on the innumerable plans which have been presented for the establishment of an air feeder network in the U. S.

In an important statement of policy, Postmaster General Frank C. Walker asserted that the flow of mail follows trade channels already established, and that while some air feeder routes may be feasible no great expansion will be necessary.

Motor transportation, he pointed out, will be resumed after the war and "superiority by aircraft is not in immediate prospect. There will be few of the many proposals for local and feeder air service that will meet the searching tests of practicability and economy in competition with surface transportation having inherent advantages," he said.

The letter, although written to CAB Chairman L. Welch Pogue on Nov. 5 was not made public until Nov. 12 at the First National Clinic of Domestic Aviation Planning in Oklahoma City. C. Edward Leasure, chief CAB examiner, revealed its contents.

Complete text of the letter, addressed to Pogue, follows:

"Reference is made to your communication of October 13, 1943, inviting attention to the investigation opened by the Civil Aeronautics Board on September 28, 1943, to determine the need for air service to the smaller communities, and the opportunity thus afforded to this Department of expressing any views it may have regarding general extension of air mail facilities throughout the country.

### 'Statement for the Record'

"With a view to being helpful in your present study of this important matter, this letter may be regarded as a statement for the record representing the views of the Post Office Department concerning future expansion of the domestic air mail service.

"The Post Office Department charted and sponsored the majority of the present air routes. This sponsorship has been one of the most important factors, if not the most important, in the development of the present air transport system. Throughout the development period, the financial aid of the Post Office Department was a most essential factor. Such aid was given wisely and in keeping with a sound program of development and progress.

"The domestic air transport system has now been brought to a state of financial self-sufficiency. Sound development and expansion should continue until the advantages of air transportation have been made available wherever the public convenience and necessity require. However, the best interests of aviation will be served by healthy growth, induced by independent stability and untroubled by sub-

sidy financing except when the national interest clearly requires such assistance.

"The flow of mail follows closely the normal trade channels, long since covered by the general pattern of the present air transport system. Future increases in air mail volume will, for the most part, flow in these same channels and will be absorbed by additional schedules and larger aircraft. Undoubtedly, there are still potential routes, and feeder service areas, awaiting wise selection, where traffic potentials indicate early self-sufficiency, or where possible public benefit clearly transcends the factor of cost. Such wise expansion will have the support of the Post Office Department, reflecting its traditional aviation policy and in keeping with sound postal financing.

"In contemplating the matter of feeder routes, it should be borne in mind that motor transportation will be resumed after the war with increased emphasis. This medium is well adapted for short haul traffic and high in popular favor. Superiority by aircraft is not in immediate prospect. There will be few of the many proposals for local and feeder air service that will meet the searching tests of practicability and economy in competition with surface transportation having inherent advantages.

"The Post Office Department will continue to give all proper encouragement and wise assistance to aviation development. At the same time it will be mindful of a like obligation to other forms of

### Absenteeism?

Absenteeism reached a new high on the Civil Aeronautics Board last month. On the afternoon of Nov. 10, it would have been impossible to contact a member of the Board at the Department of Commerce building in Washington. L. Welch Pogue, chairman, went home with a severe bronchial cold. Oswald Ryan was on his way home from a Kansas City speech. Harlee Branch and Josh Lee were attending an air conference in Oklahoma City, and Vice Chairman Edward P. Warner was on a Caribbean inspection trip. The hard-working Board members deal daily with problems of transport and travel. The majority of them apparently believe in studying these problems firsthand.

transportation also vital to the safety and well-being of the nation. By utilizing the peculiar advantages of each, impartially, a completely effective and reliable postal service will be maintained, and a material contribution made to the stability of the entire transportation system."

### Cites Ferrying Record

British Air Minister Sir Archibald Sinclair said in a recent speech at Cheltenham, England, that in the 12 months ended Sept. 30, "more than 99%" of all the aircraft flown across the Atlantic to Great Britain from North America arrived safely. Planes now raiding Germany carry three times the bomb load they did at the start of the war, he revealed.

## A Make-Shift British Airliner



Not in any way intended to compete in the postwar transport field, the wartime transport version of the famous four-engined British Lancaster bomber is shown above on its first flight from England to Canada. Known as the Avro York, its wing and center section are identical with the Lancaster, thus the only new designing is in the fuselage itself.

It has a 63,000 lb. allowable gross weight, is powered with four Rolls-Royce liquid-cooled Merlin engines, and its builders claim it can carry fifty passengers or a payload of six tons 3,000 miles, and cruises at about 200 miles per hour. Wing span is 102 feet and length 78 feet.

One York is now being built by Victory Aircraft, Toronto, through arrange-

ments made by the Canadian Dept. of Munitions and Supply, but the question of additional construction will await completion and testing of the first plane. The first Canadian York is expected to be ready for flying early in the spring.

While not considered as a serious entrant into the postwar transport field, the York is highly regarded for emergency wartime transport duties, and might well be suitable for non-competitive cargo operations at the war's end. It's literally a "flying boxcar," and for this reason cannot be used in postwar overocean passenger flying because of inability to pressurize the cabin for high-altitude flying. Pilot visibility is unusually good. No Yorks as yet have been assigned to British Overseas Airways Corp.

# Manufacturers Attempt to Prevent Wilson Resignation

By BARBARA B. C. McNAMEE

**M**ANPOWER shortages have forced the War Production Board to reorient its controls. At almost the same moment it discovered the key factor in creating full production was no longer materials but manpower, WPB's materials genius, Charles E. Wilson, resigned to return to private industry.

Aircraft manufacturers, who found he battled manpower shortages as competently as material tie-ups, faced Wilson's proposed retirement with dread.

Although there has been a storm of protest from Congress and other government officials, Wilson insists that he will leave on Jan. 1 unless he receives a public request from the President. WPB Chairman Nelson in a letter addressed to Wilson is understood to have praised him for his accomplishments at WPB and to have acknowledged that Wilson was responsible for straightening out the major critical production problems of the year. Nelson now believes both aircraft and destroyer escort production slumps have been definitely licked.

Aircraft manufacturers will make a concerted effort to prevent Wilson's resignation. They feel that no one in government knows the industry's strength and weaknesses as well as he and that, although the program is going smoothly, there is no guarantee that this condition will last after Jan. 1. Wilson acknowledged this possibility in recent testimony before the Senate's Truman committee when he said, "Generally speaking, the aircraft manufacturers have enough manpower to meet the current production schedule, W-8, but if schedules rise substantially in 1944, they will need more."

## W-8 Reflects New Trend

W-8, the latest revision of production goals for 1943, is the first to reflect the new trend in WPB planning, since it is based on the availability of manpower and its productive capacity. Allotment of available materials in proportions equal to the importance of each program to the war effort was previously the Requirements Committee's method of preparing schedules.

The Controlled Materials Plan was created at a time when a tool was necessary to guarantee that producers of vital war materiel could obtain amounts of critical materials to fill their quotas of finished goods. Indications that CMP had accomplished its purpose are to be found in recent testimony by WPB Chairman Nelson before an executive session of Senator George's Committee on Post-war Planning. Nelson is reported to have revealed that WPB is making plans for shelving CMP whenever such a move becomes feasible.

The availability of former "critical" materials was emphasized by the findings of WPB's Requirements Committee when it completed allotments for the first quarter of 1944. Sufficient quantities of alloy steel, aluminum and copper to insure completion on time of all essential pro-

grams will be on hand, stated J. A. Krug, chairman of the committee. "Although certain forms of copper and aluminum are tight, this situation represents fabricating difficulties and not over-all shortages in these metals." Krug attributed these "fabricating difficulties" primarily to growing manpower shortages in the foundries.

Best proof that the materials shortage has virtually ended was found in several announcements made by WPB over the past fortnight. Production of aluminum was running 871,200,000 lbs. for the last quarter against an allotment of 774,000,000 enabling WPB to lift restriction on its use in essential civilian production. Despite the coal strike, many steel plants broke all production records in October and for the first time, steel was released for manufacture of consumer goods like hooks and eyes, except in Group I and II labor shortage areas. Steps are being taken to "avoid excess accumulations" of marginal minerals and to forestall excess supplies, premium prices for copper were abolished. To Washington observers it is clear that in general "supply and requirements are now in balance."

## Manpower Channeled

As the connection between manpower supplies and production grew clear, WPB began to investigate its own powers to channel manpower as it had channeled material toward the most essential users. "When there isn't enough manpower to go around, labor must be directed to the most important jobs, just as critical materials are distributed among the most essential end uses. Germany made this discovery as early as 1934, England in 1940," they stated, commenting on the West Coast Manpower Plan. A part of this plan was to release labor to satisfy demands of war plants in critical areas by curtailing less essential production.

Informed sources told *American Aviation* that WPB has recently established that it has no power to curtail production when the release of manpower is the only object. The only authority which it holds, in connection with curtailment of production, are the priority and allocations powers. In cases where war production is directly involved and there is a shortage of material or facilities, WPB has the power to allocate materials and facilities so as to release labor from less essential productive plants to more essential plants. In the rare cases which require no critical materials or facilities for an industry to continue operations, WPB is powerless to curtail its activity for any reason.

In addition to its ability to release labor from less essential production, it has the authority to channel available, unemployed manpower. Under the Byrnes' Manpower Plan, WPB operates in eight critical areas Production Urgency Committees which award priority ratings to war plants for obtaining labor.

In a third instance, WPB has revised its general policies to recognize the importance of manpower to production. Directive 2, its basic procurement policy regulation, was recently amended to place manpower in second place among considerations which shall govern in negotiating contracts relating to war procure-



First official picture of the Handley Page Halifax II bomber with new-type fins and rudders.

ment and in revising war procurement programs. Subject only to the requirement of securing delivery, "it shall be the policy of all war procurement departments and agencies to avoid contracting for the producing of items or materials in communities or areas where labor shortages are known to exist . . . Regardless of any other considerations no contract requiring increases in employment shall be placed in the West Coast region or in any other region to which a program similar to the West Coast Manpower Program may hereafter be applied."

WPB goes further in attempting to conserve manpower in critical areas. Twice in as many months, Wilson has requested all manufacturers to reduce sub-contracting in Group I areas and to refrain from accepting subcontracts for their plants in those areas if there are adequate suppliers in Group III and IV areas.

The Aircraft Resources Control Office of WPB has been assigned the compilation of all manpower requirements data to be used by WPB, WMC and industry in determining the validity of future demands. ARCO officials are now on the West Coast conferring with aircraft manufacturers who have recently completed a definitive manpower audit of their plants. This situation represents a substantial transition from the stage when such compilations and conferences were the exclusive responsibility of WMC.

The Facilities Bureau, always quick to reflect WPB policy changes, changed its criterion from what end-product must be expanded most rapidly, to how much materials are available for new construction. Today it has undergone another change. Before authorizing new facilities, whether industrial or non-industrial, it must first determine that adequate manpower is available for construction and that sufficient labor is available for operation of the completed facility.

## Priority to Housing

To insure the stability of the labor market, WPB has taken steps to cure turnover, absenteeism and poor utilization. Using its priority and allocations power, it granted AA-1 priority to housing projects for war workers in four critical areas and even earmarking one project in Los Angeles for aircraft workers exclusively. In this way it is turning its authority over distribution of materials to expand the effectiveness of its control over manpower.

War Manpower Commission officials have prophesied that in any future war, we, like England, will decide that a single agency should be assigned the responsibility not only for production but for its basic components, materials and manpower. Other Washington observers interpret the recent realignment of WPB operations as an indication that some such changes will be made before this war is over.

# Aero Chamber to Discuss Limiting of Memberships

THE AERONAUTICAL CHAMBER of Commerce of America, moving into a reorganization program designed to strengthen and project it into the postwar era as a strong trade association for the aviation industry, will hold its annual meeting at 10 A.M., Dec. 2, in the Statler Hotel in Washington.

While it will not be ready to enter its new fiscal year with reorganization and revitalization an actual reality, much progress has been made in that direction in recent months and numerous organizational factors will be up for discussion at the meeting.

Topping the agenda will be the election of a new board of 15 governors, according to Col. Harrison Brand, manager. A proposal has been submitted for amendment of the by-laws to provide for staggered election of the board over a period of three years, but it will be necessary to submit this amendment to the full membership for approval.

Another question scheduled for full discussion at the meeting is a proposal backed by a large segment of the membership that the Aero Chamber be made strictly a national manufacturers' trade associa-

tion—with adoption of a new name and exclusion from membership of all firms who are not actually manufacturers.

The Board of Governors has approved a budget for the coming year of \$600,000, much larger than the Chamber has had during the period since its activities were sharply curtailed.

Probably the most important question awaiting decision is the selection of a chief executive for the Chamber. For two months a special advisory committee has been seeking a highly qualified man for the job to head up the vigorous program which is projected. Indications are now that no action on the selection can be expected before the first of the year.

Members of this advisory committee, appointed by the Board of Governors, are: Guy W. Vaughan, president of Curtiss-Wright Corp.; Eugene E. Wilson, president of United Aircraft Corp.; Donald W. Douglas, president of Douglas Aircraft Co.; J. H. Kindelberger, president of North American Aviation, Inc.; Dwane Wallace, president of Cessna Aircraft Co.; and Ernest R. Breech, president of Bendix Aviation Corp.

## Mfrs. Support Lea Aviation Measure

Telegrams to Chairman Clarence F. Lea (D., Calif.) of House Interstate and Foreign Commerce Committee from aircraft manufacturers urging enactment of his bill evidenced the vital concern of this branch of the industry in getting commercial aviation legislation on the books as soon as possible.

Telegrams were sent by the following: Donald W. Douglas, president, Douglas Aircraft Co., Inc.; Harry Woodhead, president, Consolidated Vultee Aircraft Corp.; Mundy I. Peale, vice president, Indiana Division, Republic Aviation Corp.; Alfred Marchev, president, Republic Aviation Corp.; William L. Wilson, assistant to the president, Kellett Aircraft Corp.; Henry J. Kaiser, president, Brewster Aeronautical Corp.

## Air Development Group Set Up by Cuban Leaders

A group of prominent Cubans have formed the National Committee for the Development of Aviation to promote civil aviation in Cuba following the war. Dr. Pablo Carrera Justiz, professor at Havana University, is chairman of the group, which includes other educators, and commercial, industrial and civic leaders. The committee will soon launch a campaign to induce municipalities to establish air fields for postwar commerce, the chairman reports.

### Correction

In its story Nov. 15 on the Air Transport Association's committee on aircraft requirements, *American Aviation* described Karl O. Larson as "engineer, Pan American Airways." Mr. Larson is chief engineer of Northwest Airlines. The error is regretted.

## Hotels Explore Prospect of Roof Facilities for Planes

HOTEL OPERATORS are planning post-war roof and other landing facilities for planes, it is revealed in a survey by *Hotel World-Review*, trade journal of the hotel, restaurant, and club field.

"We feel that methods of transportation will be decidedly changed within a year or so after the war," writes Carling L. Dinkler, president of Dinkler Hotels, Atlanta, in the magazine's Nov. 6 issue. "Helicopters will undoubtedly replace many automobiles."

Thomas E. Hull, managing director of Hull Hotels, Hollywood, Calif., warns against hotelmen overlooking "business which will be generated from various companies employing their own airplanes and

pilots, and individuals who will fly their own planes and take their families with them after we win the war."

Some hotelmen are considering the potentialities of new sites to take advantage of postwar air travel, the survey disclosed. Jefferson L. Ford, Jr., president, Jeff Ford Hotels, Washington, D. C., suggests obtaining hotel sites outside of cities, with landing fields for flying travelers.

George C. Scott, president, Scott Hotel Co., Dallas, Tex., anticipates that "traveling by means of the convenient helicopter should provide additional patronage for hotels."

"When it becomes easy and convenient

for people to journey great distances, it naturally follows that provision must be made for their care and comfort," he adds.

Dinkler anticipates that "men who have traveled in bombers at 400 mph will not be satisfied with an automobile at 60 or 70."

"We feel the coming of the helicopter so strongly that we have given consideration to the leveling of roofs of hotels to effect a landing place for them," he writes.

A news dispatch from San Francisco last fortnight said the Fairmont Hotel there "is building a helicopter landing field on its roof."

### Exit Canoes, Dog Teams

The story of a changing arctic economy was related before the recent air cargo meeting of the Society of Automotive Engineers in Chicago by W. L. Brintell, president of Aircraft Repair, Ltd., Edmonton, Alberta. Brintell estimated operating costs of medium type air freighters at three cents per ground mile "... definitely cheaper than transportation by canoe in summer or by dog team in winter . . . and infinitely faster."

"Sky freighters carry everything the people of Northern Canada need—including canoes and dog teams," he said. "The few remaining dog teams are flown by plane to remote locations, where they provide local transportation, especially for trappers."

## Posthumous du Pont Award Announced by War Dept.

Posthumous award of the Distinguished Service Medal to Richard C. du Pont, who was killed Sept. 11 at March Field, Cal., while participating in an experimental flight of a new type glider, was announced last week by the War Dept. The award was for his services as Special Assistant to the Commanding General, Army Air Forces, in charge of the AAF glider program.

The award was for "exceptionally meritorious service to the Government in a position of great responsibility from April 20, 1943, to Sept. 11, 1943." The citation said in part:

"In the capacity of special assistant to the Army Air Forces glider program, Mr. du Pont displayed exceptional professional ability and inspiring leadership in planning and supervising the effective utilization of military gliders and related equipment. Under his skillful direction full exploitation of the large glider for airborne operations was rapidly attained. He effected important changes in training technique which constituted practical application of current combat requirements personally observed in the Sicilian campaign.

"Charged with overall supervision of research in the field of unpowered flight, he maintained close coordination with civilian contractors in their efforts to improve glider equipment."

# 'Much Talk, Few Decisions' on U. S. Air Policy—Ryan

## Veteran Manufacturer Cites Need for 'Prompt' Crystallization of Government Aims

*(In response to requests for his views on postwar aviation and the many problems facing the industry, T. Claude Ryan, president of the Ryan Aeronautical Co., has prepared a carefully considered and ably presented discussion of the essential factors involved in conversion of aviation to its fullest potentialities after the war. AMERICAN AVIATION presents Mr. Ryan's conclusions as one of the most provocative discussions of the subject yet published.—Editor's Note)*

By T. CLAUDE RYAN

A POPULAR PASTIME for armchair prophets these days seems to be to take the brakes off and let imagination run wild about aviation's future immediately following the war. Some of these prophets visualize cargo planes as big as the Queen Mary, and swarms of private-owner aircraft blackening the sky. Another group sees the pessimistic side, and predicts a complete collapse of the aviation industry as soon as the government stops its billions of dollars of war orders.

The most probable future of aviation lies somewhere between these two extreme viewpoints. In other words, neither is accurate, but both have some basis of truth.

I make no claim to any gift of reading the future. But I have formed some opinions, influenced by studying trends of development over some 20 years of intimate association with the industry as a manufacturer and operator of airplanes. For some time here at the Ryan Aeronautical Co. we have been studying the new set of conditions which may be expected to prevail during the postwar period.

It took the war to prove to the world that the airplane has reached an advanced stage of development and has tremendous value—not only as a weapon of war, but more importantly as a major means of transportation. Also, that the country with an industry capable of designing and producing the best and largest number of airplanes has the most powerful of all military advantages.

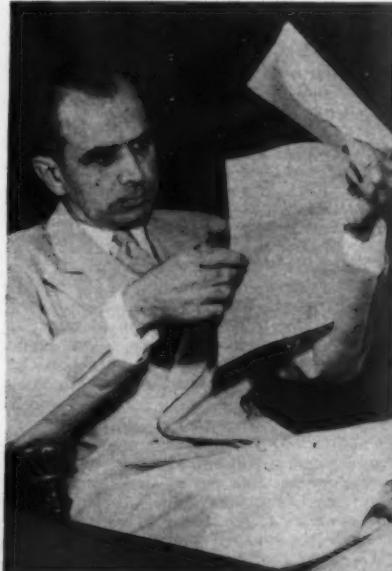
Virtually no one now questions the above facts. But aviation's possibilities and America's opportunities in a world at peace are not yet so widely understood. This in spite of the fact that the magnificent accomplishments of air transportation throughout the world have pointed the way to the great part that aviation will play in the future.

Furthermore, the fact has finally been accepted that our national security can be safeguarded only by maintaining aircraft manufacturing and operation on a large healthy basis. This country can attain and maintain world leadership as a by-product of a national policy of sponsoring full utilization of air transportation.

The standard of living of every citizen will be influenced by sound government policies to guarantee complete coverage of the world by airlines operated by

American companies. Such airlines can open rich new world markets to our American industries.

There has been much general discussion of this subject by various government agencies and committees, but few decisions have apparently been reached so far. Prompt crystallization of government policies should be forthcoming and



Claude Ryan

definite plans decided upon; as this all-important program can only take place within a framework of sponsorship established by the government. I believe it is desperately important right now that the people of this country and their elected representatives understand the importance of this matter, and see to it that action is taken.

In the century when the young United States was pushing its frontier westward with the aid of the railroads, we had almost continuous good business conditions. The constantly expanding country created constantly expanding business opportunities. Since that frontier vanished, these opportunities no longer exist, and prosperity has become more elusive. But now, if we make use of aviation, we can

have vast new frontier areas again. All the underdeveloped sections of the world can be our business frontiers.

In South America there are already millions of customers for American products; in devastated Europe there will be millions more; in Asia and Africa industrialization is already on the march to open vast new markets. Chinese officials are working on a master plan of reconstruction to make their country a flourishing, trading, building nation. They're laying plans for roads that must be built, for the hundred-thousand miles of railroads New China will need . . . Bulldozers have pushed 1,671-mile road to Alaska, and U. S. and Canadian envoys are discussing joint development of the newly-opened territory . . . Fifteen thousand workers have moved into the Amazon country, with hordes to follow . . . An Australian government commission is laying plans for the immigration of millions of new settlers.

All over the globe, customers will be receptive to American goods, both our long-established ones and the miraculous new ones our inventors have brought forth as by-products of the war.

Yes, for a manufacturing nation such as ours, new and wondrous opportunities are knocking at the door. But we must open the door and reach out. Reach out as never before for foreign as well as domestic commerce.

A nation with a web of powerful, high-speed airlines spreading from the home factories to the rest of the world can sell those factories' products to millions upon millions of buyers. The factories will be humming, more and more jobs will be opening up, and the nation will prosper.

But a nation with few or second-rate airlines will have to take what's left over when the more progressive countries have skimmed the cream of world trade.

Railroads and steamships will no longer be fast enough for international trade, in competition with airlines that can hop across jungles, oceans and mountain ranges. Even airlines will not be good enough, if inferior to the airlines of other nations.

If a buyer in Buenos Aires, for example, has to choose between goods made in a British or American factory, the transportation facilities may be the deciding factor. Other things being equal, if the British factory in Birmingham is served by an airline which makes ten flights to Buenos Aires weekly while there are only two flights a week from the American company in San Francisco, obviously Britain stands a better chance to get the order. If a manufacturer in Moscow and another in Chicago learn there's a lucrative business to be picked up in Brazil, the Russian will have a big advantage if he can hop a plane that gives him a 24-hour head start on his competitor.

Postwar international trade will depend on air transport. If American business can make many of their deliveries by air, if they can get into remote regions, and

(Turn to page 40)

# Lumarith

A CELANESE

PLASTIC

STARLIGHT COLOR

"How about using plastics?"

Sooner or later, it comes up in  
most every production conference.

... As founder of the plastics  
industry and as producer of the complete  
range of Lumarith and other plastics,  
we can help you very directly. We invite you  
to consult us on present and future problems  
in plastics. Celanese Celluloid Corporation,

THE FIRST NAME IN PLASTICS, 180 Madison Avenue, New York City 16,  
a division of Celanese Corporation of America.

\*Reg. U. S. Pat. Off.

Special green and red  
Lumarith for blind flying  
equipment. To the student-  
pilot, wearing Polaroid  
goggles with red Lumarith  
lenses, the green windshield  
looks black while the flying  
instructor sees clearly.



Starlight  
(transparent blue)  
Lumarith protects  
coastwise shipping  
from glare yet win-  
dow shoppers can  
see merchandise.

Red transparent Lumarith over light  
bulbs of instrument dials aids night  
pilots on the sea and in the air. No  
impairment of their night vision.

... All  
world  
already  
prod-  
will be  
indus-  
ruch to  
officials  
recon-  
urish-  
they're  
built,  
the rail-  
Bull-  
had to  
envoys  
of the  
fifteen  
to the  
follow  
com-  
migra-  
will be  
with our  
coulos  
forth  
such  
nities  
must  
watch out  
as do-  
high-  
home  
can sell  
upon  
will be  
ill be  
sper.  
d-rate  
t over  
s have  
longer  
ide, in  
hop  
mountain  
good  
other  
example,  
e in a  
trans-  
deciding  
if the  
served  
ights to  
the only  
American  
British  
set the  
ow and  
lucra-  
Brazil  
age if  
a 24-  
depend  
ness  
by air.  
s, and



## Reunion in America

**...that's one thing we're working and fighting for!**

Christmas furlough, 1943...a little fellow he's never seen...such a lot of living to be crowded into a few precious days, then off again.

Ask this man, *any* man, what he's fighting for.

Ask Joe, who's done "bomb-sight-seeing" over Berlin; or Tom, who found good hunting among the cold rocks on Attu; or Pete, who can tell of bullet-spitting trees on Guadalcanal; or Al, who took his South Seas cruise in a rubber raft.

Yes, they know all the answers.

Conquest?...a New Order? No, it's bigger—and simpler—than that.

It's families and homes and hobbies. It's jobs that can grow with a man's ambitions. It's the right to think, to vote, to worship as a man chooses. It's the heart of America.

It's what the thousands of men and women of North American Aviation are fighting for, too—fighting for by turning out ever-more and

ever-better Mitchell bombers, Mustang fighters and Texan combat trainers...planes to make the job of our fighting men easier, safer...to bring the men home sooner.

Home—not for Christmas furlough—but for a reunion in America that will have no ending.

*North American Aviation, Inc., designers and builders of the B-25 Mitchell bomber, AT-6 Texan combat trainer, P-51 Mustang fighter (A-36 fighter-bomber). Member, Aircraft War Production Council, Inc.*

**North American Aviation Sets the Pace!**

# Western Hemisphere Unity in Global Air Traffic Advocated

## Canada, U.S. Need Close Air Relations, Parrish Tells AITA

THE western hemisphere should set the pace for world air traffic and take the leadership in its development, Wayne W. Parrish, editor and publisher of *American Aviation* and *American Aviation Daily*, said in Toronto on Nov. 15.

Speaking at the annual dinner of the Air Industries and Transport Association of Canada, Parrish asserted that Canada and the U. S. should have the "closest possible relationships in the air to provide the leadership that properly belongs in the New World."

Pointing out that the trend in the U. S. is toward a number of international air carriers rather than one chosen instrument, the speaker warned against adoption of a rigid pattern at the present time.

"Certainly any nation that is too inflexible in establishing a pattern today in this mere dawning of the air age is likely to be overtaken by more aggressive and progressive competitors, that is, if we are correct in assuming that the big development of air transportation is just beginning," he said.

Stating his belief that the western hemisphere should tend to act in unity on many matters pertaining to global air traffic, he stated that "it is on this hemisphere that we have seen the greatest freedom, the greatest integrated industrial development and the greatest initiative and invention. It is my feeling that the western hemisphere should set the pace for world air traffic and take the leadership in its development.

### Raps Cartels, Pools

"Europe has many fine airlines, but the European tendency is always toward a form of cartel or a pooling where the less aggressive operators are protected in large measure and where competition tends to be placed in an orderly and neat package. The western hemisphere never reached its present state of civilization by any such sit-back-and-take-it-easy method."

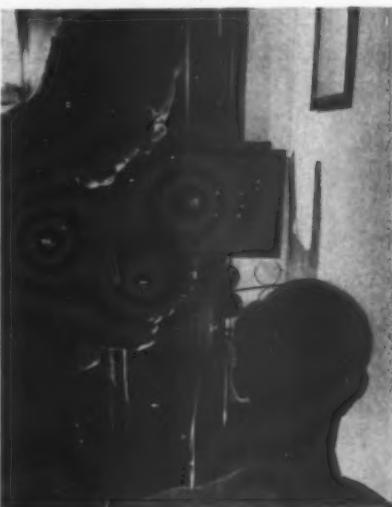
It stands to reason, Parrish said, that the U. S. and Canada must have close air relations. Canada will originate much intercontinental air traffic, and the U. S. originated three times the prewar trans-Atlantic surface traffic of all European countries put together, he pointed out.

"I believe we need much more north-south traffic, not just from your large cities close to the border, but more arterial air highways from the Far North all the way through South America—in other words, a greater north-south hemisphere development of air commerce."

On other subjects, the speaker said: "Markets for postwar airplanes will be in the usual 3 categories—military, commercial, and private. Certainly, the most promising long-range field is the airplane

for the private owner, but I don't think one can say that it is going to blossom out as something really tremendous right after the war. It should be a field of steady, progressive expansion, especially if the engineers design planes to meet the needs of the public, rather than design planes the engineers think the public wants. The aircraft industry has a great deal to learn before it can master completely the consumer's market. The airplane for the private owner must be for purposes of utility, not primarily for recreation. In other words, it must be an airplane for low and slow flying, similar to the old Model T Ford, instead of fast and streamlined. In a sense, the airplane is following the trend of the automobile in the early days. It was not the nifty racer that paved the way to mass use of automobiles, but the ungainly but sturdy Model T that could plow through mud and over rough roads. If the airplane does not serve a utility, it will not hit the mass market, but will remain in the motorboat and yachting class. The Model T of the air will find

### Reveals 'Double Vision'



Dr. A. J. Herbolshimer, assistant chief of the medical division of the Civil Aeronautics Administration, is shown demonstrating a new apparatus for revealing diplopia (double vision) in applicants for pilot certificates. The device was developed and built by him. It consists of four Christmas tree lights, a ground glass, and a selector switch box. Every light can be white or red, and any of 26 possible combinations of lights can be turned on by the examiner. The question of diplopia can be positively determined with no possibility of error, CAA reports.

## Directors, Officers of AITA Reelected at Toronto Meet

Air Industries and Transport Association reelected its directors and officers at its annual meeting in Toronto, Nov. 15 and 16. R. B. C. Noorduyn was renamed president; C. H. Dickins, vice-president; W. F. English, honorary secretary; M. E. Ashton, honorary treasurer; J. N. Baird, W. M. Deisher, P. C. Garrett, Grant McDonald, and C. R. Troup, directors. Walter F. Thorn was named general representative and W. B. Burchall, executive secretary.

The association went on record as favoring the immediate creation of a central, free, and independent government authority for civil aviation with wide powers to promote, administrate, and safeguard the development of air transportation in Canada and on the international routes from and through Canada."

a big market in the days to come. Far too much emphasis has been placed on the recreational aspects of the private airplane. Its great future does not lie primarily in that direction . . .

"Looking at commercial air transportation, the outlook is very bright for expansion of all internal services in the western hemisphere. Within a reasonable period after the war's end we will have a number of excellent transport planes carrying from 50 to 100 passengers. Transcontinental travel time will be materially reduced when the average operating speeds of airliners move up from the present average of 165 miles per hour or so to perhaps 230 miles per hour. Later on, in a subsequent stage, especially for long-range operations, it seems likely that we can expect up to 280 miles an hour and I would not want to say what the limit of commercial transport speeds might be beyond that . . .

### Realistic View of Feeder Development

"In our own West, the airplane has a great opportunity to serve isolated communities not adequately served by rail or highway. But the dreams of feeder airlines covering the entire nation, with stops every 20 to 40 miles, had best be tempered for the present in those areas where an adequate and integrated surface transportation is on the job. The airplane's usefulness will be on the longer hauls and in direct point-to-point service, or in areas where it provides a real and genuine saving of time. We should be realistic and realize that no government will authorize airplane routes which merely take something away from existing surface carriers and add nothing of any consequence in return. For this reason Canada's outlook for expansion is bright, assuming an intelligent Government encouragement, for it has more areas needing adequate or new service than we have. Too often aviation people endeavor to replace or to compete without endeavoring to provide something new. The destiny of the airplane is not merely to replace surface transportation. But this much is true: wherever the airplane can provide a service that is materially faster, and as reliable, as surface carriers, it will find a great and ever-expanding future . . ."

# Open World Bases to All Airlines—Pogue

## CAB Chairman Favors Formation of Group Representative of All Nations

**L. WELCH POGUE**, chairman of the Civil Aeronautics Board, favors the formation of an international business organization for the operation of international air bases, many of which are already constructed, and advocates the principle of private ownership, under government regulation, in the contemplated future expansion of American air transport into the foreign field.

He expanded these thoughts in a speech last fortnight before the New York *Herald Tribune* Forum in New York City. His subject was "World Highways of the Air."

Stating that he was not purporting to assert government policy, Pogue declared that international air transportation must not be shackled by unwarranted restraints.

"Artificial barriers to the normal development of air transportation, once erected, would usher in a period of obstructed progress, and another era of international conflict," he said.

"We may never achieve one great world nation, but international air transportation has brought with it the compelling need for a well-ordered family of nations.

"It will be in accordance with the enlightened self-interest of all nations to agree among themselves as a part of international working arrangements, that rights of commercial air transit shall be generally available to commercial aircraft of all nations. Only in this way will the skyways be opened for commercial planes to get to their commercial outlets.

### Favors Commercial Outlets

"With respect to the granting of 'commercial outlets,' that is, the right of any foreign airline to discharge and take on passengers and traffic, each nation, except the Axis nations which present special problems, must decide where its best interests lie. It would be quite unrealistic at this stage of the world's development to assume that such commercial outlets should be more or less automatically granted to all comers. All countries, small or large, except the Axis nations, should continue to have the right to admit or exclude foreign commercial aircraft in accordance with their own best interests. The existence and continued recognition of this right should not impede proper development of the future air commerce pattern. Commercial outlets granted in the best interests of each nation will be many and world-wide, because the benefits to be derived by any country from commercial air relations with other countries are great.

"Under compulsion of war, at many points in the world excellent airports have been built or substantially enlarged with the resources of nations other than the one in whose jurisdiction the particular airport lies. Some of these airports are so located that they could quite naturally become important contributors to the most practical and economical future world air transport network. Many such airports will prove useful as 'staging points,' that is, refueling, repair and storm refuge points for postwar commercial air trans-

portation. It would be a big step in the interest of all nations, including those in which the airports are located, if these airports, useful for international commercial operations, could be opened up as staging points for use by the air commerce of the world on a basis of equality and without discrimination. In many cases, the countries having sovereign jurisdiction over them might be willing to permit such airports to be owned, operated, and financially supported by a business organization which would in turn be owned by those United Nations desiring to see such airports so administered and willing to underwrite costs of upkeep not met by operating income. An arrangement of this kind would insure uniform airport operating methods and techniques, fair and non-discriminatory service charges, and such other benefits as might be reasonably expected. Here is one place where, on a hard-headed business basis, international cooperation holds high promise of benefit to all . . . ."

With reference to the nature of U. S. international airlines, Pogue said: "I believe that private ownership should be continued in our international air opera-

tions, subject to appropriate governmental regulations."

The CAB chairman mentioned that government ownership of commercial enterprise in this country has never been popular. He pointed out that private ownership, and with government aid where required, had given this country the finest domestic and international airlines in the world.

"Air transportation development is still in its infancy. For its maximum growth, it requires daring, courage and boldness. The aviation art is dynamic and needs dynamic operators," Pogue said. These were some of the reasons why he felt that private ownership was best suited to meet the development needs of the future.

### NATA Would Change Name, Dropping Word 'Training'

The National Aviation Training Association, looking into the postwar future for the non-scheduled flying business, will give consideration to a change from "Training" to some other name embracing all independent aviation activities, when the fourth annual convention assembles December 2, 3 and 4 at St. Louis. Leslie H. Bowman, Ft. Worth, N.A.T.A. president, will recommend that the membership lists be opened to all types of non-scheduled aviation enterprises. The convention theme will be "Independent Aviation's Tomorrow."

In keeping with the association's expanded program, an all-day maintenance clinic will be staged the opening day. Ray Snyder, Chicago, president of the Aviation Distributors & Manufacturers Association, will preside. The program was arranged by A.D.M.A. members.

Speakers will include Wayne W. Parfis, publisher, *American Aviation*, on "Freedom for the Private Flier"; Robert H. Hinckley, New York, "Young America's Heritage in Peace-Time Aviation"; John P. Morris, WTS Director, on "Our War-Time Job"; Congressman Jennings Randolph, "Community Aviation Development"; Warren H. Atherton, national commander of the American Legion, "The World on Wings"; Frank A. Tichener, publisher of *Aero Digest*, "Looking at Ourselves."

A round table the closing day will open discussions on all problems involved in the postwar outlook for independent aviation. Relaxing of flight regulations, development of small airports and landing strips, sales policies to be put into effect by manufacturers of small airplanes and related subjects will be discussed.

The 300 rooms reserved at the Hotel Jefferson, headquarters, had been assigned a month before the convention's opening date. The attendance is expected to exceed 500.

### 35,000 Air Cadets by June

Wing Commander D. R. MacLaren, president of the Air Cadet League of Canada, predicted last fortnight that by the end of the school year the league will have attained its objective of 35,000 cadets. At present, 24,500 boys are enrolled in 344 squadrons, he said.



Armed with hand grenades and shotguns, two members of the Sacramento, Calif., squadron of the Civil Air Patrol are shown just before they took off on a recent flight to drive wild ducks from the rice fields of California's Sacramento Valley. The fliers are Capt. Ed Meyers, commander of the squadron (left), and Lt. George W. Hancock.

# Lea Bill Fight Stirs Aviation Clinic

## Col. Gorrell's Speech Touches Off Verbal Tiff; NASAO Opposes Measure

By ERIC BRAMLEY

SOLID opposition to the Lea civil aviation bill (H. R. 3420) by state aviation officials and equally strong support for the measure by domestic airlines came to the surface at the First National Clinic of Domestic Aviation Planning in Oklahoma City on Nov. 11-13.

The Lea bill never became a formal issue on the floor of the Clinic, but as one Oklahoma City newspaper commented, it was "the hottest thing in town."

In numerous "off-the-record" meetings in corridors and hotel rooms—the issue was debated pro and con. Some delegates remained in town two days after the close of the Clinic to make sure that their interests were properly protected.

State officials, through their organization, the National Association of State Aviation Officials, went on record as definitely opposing any action on the Lea bill or any other bill until after the war. Despite this resolution, however, there were indications that the state officials and the airlines might be able to work out their differences.

For a while the bill, which state representatives claimed violates states' rights, threatened to become the major topic of discussion on the floor of the Clinic, until both factions agreed to call off formal debate so that other important subjects could receive adequate consideration.

### Both Seek Resolution

As the Clinic opened it was evident that a group of state officials had arrived in Oklahoma City determined to prevent any endorsement of the Lea bill, while airline interests were anxious that a resolution favorable to the bill be adopted.

On opening day, at a luncheon, Col. Edgar S. Gorrell, president of the Air Transport Association of America, asserted that "enactment of the Lea bill, providing thus for domestic freedom of the air, surely should assume a high place on any program for the future development of American civil aviation." The only "fully effective means for assuring domestic freedom of the air is through Congressional action," he claimed, adding that "in the Lea . . . bill . . . this very important problem is dealt with in a manner which would seem to be eminently satisfactory."

In a plea for state support, Col. Gorrell stated that "the consequences of the Lea bill . . . would be to avoid the possibility of regulating this branch of the industry to death through 49 different authorities, each limited in jurisdiction and none able to take an overall view."

"Again, however, the Lea bill does not contemplate that the states are never to play a part. It simply provides that Congress is to be a kind of umpire through which duplication, waste and conflict can be avoided."

On the same afternoon, Thomas E. Walsh of the Michigan Board of Aeronautics unexpectedly took the floor at the Clinic and charged that the meeting was "politically stacked for the airlines" and that Gorrell's speech was "the greatest line of hooey I have ever heard." He accused Gorrell of trying to fool the people in aviation as well as the public.

any recommendations on national legislation, and requested the Clinic directors not to permit any further discussions on the floor. Both sides agreed to the action.

Thus ended formal attempts to make the Lea bill one of the Clinic's major issues. However, informal debate on the bill increased instead of subsiding. The last day of the Clinic and the day following were marked by three important developments:

● State officials, barred from answering Gorrell on the floor, held a NASAO meeting, elected Dexter C. Martin of South Carolina president, adopted a strong resolution against the Lea bill, called it an "aviation Volstead Act" and named a legislative committee to represent their interests.

● The National Aeronautic Association's directors met, said the Association's stand on the bill had been misrepresented, claimed they neither supported nor opposed the measure at this time.

● Roy A. Watkins, executive vice president and general manager of Howard Aircraft Corp., announced that manufacturers of personal and other small aircraft would be asked to form a temporary national organization for leadership to "separate the interests of a large segment of aviation from the influence of the transport airlines."

The NASAO requested that "no action be taken on the . . . bill or any similar bill or bills by Congress until the present war is over and peace is established."

The preamble of the resolution stated

(Turn to page 28)

### State, Airline Officials at Clinic



Pictured at the First National Clinic of Domestic Aviation Planning were, left to right, Thomas E. Walsh, Michigan Board of Aeronautics, who touched off debate on the Lea bill by charging that the clinic was "politically stacked for the airlines"; Terrell C. Drinkwater, executive vice president of Continental Air Lines, who served on the resolutions committee and as a discussion leader; Gov. Matthew M. Neely of West Virginia, who presided at one session, and William L. Anderson, Pennsylvania Department of Revenue, who also opposed the Lea measure.

# Clinic Asks Separate Air Arm, Vast Expansion of Air Service

## Postwar Research, Pilot Training Also Asked in Resolutions

THE First National Clinic of Domestic Aviation Planning, one of the most successful aviation gatherings of recent years, closed in Oklahoma City on Nov. 13 with the adoption of resolutions dealing with problems of all parts of the industry.

Almost 600 delegates, members and spectators from all parts of the country participated in the three-day clinic.

One of the most important resolutions urged creation of a separate air force, and the establishment of the post of Secretary of Defense in the Cabinet. Undersecretaries of Air, War and Navy would serve under the Secretary of Defense.

### Amend 1st Proposal

As originally reported to the Clinic, the resolution asked secretaries of Air, War and Navy "co-equal in every respect with sufficient liaison to mutually support one another as necessary." At the suggestion of Rep. Jennings Randolph (D., W. Va.) and Gill Robb Wilson it was amended on the floor to include the Secretary of Defense.

A vast expansion of air service was asked in another resolution which urged that the Civil Aeronautics Board "immediately formulate a service pattern which will, at the earliest practicable moment, extend the benefits of scheduled air transportation of passengers, property and mail to serve directly the smaller cities and towns of America."

Congress, the Post Office Dept. and other departments were asked to "plan and promote the adoption of legislation which will create a national system of air parcel post." Congress should earmark PO profits from air mail for the expansion of such air postal service, it added.

### Ask Cancellation Notice

Avoidance of delay in termination of aircraft manufacturers' war contracts was asked by the Clinic. "The cost of shrinking a business is as much a cost of war as the cost of expanding a business," it said. Accounting practices should be established, contracts should be canceled only upon reasonable advance notice, the government within 15 days of demand should make advance payments to contractors of 90% of termination claim, it added.

"With regard to the immediate problem, profits (should) be renegotiated after taxes and . . . net profits after taxes, not exceeding 3% of sales, should be exempt from renegotiation," the resolution said. Throughout it followed closely recommendations made in a speech by Francis Callery, vice president-finance of Consolidated Vultee Aircraft Corp.

Surplus aviation equipment, the Clinic

decided, must be disposed of "in such a manner as to protect as far as possible the taxpayers from unnecessary loss, the consumer from unreasonable prices, labor from unemployment and manufacturers and other interested businesses from destructive competition at home or abroad, and that to accomplish these purposes the matter be put in charge of an appropriate government agency."

War Training Service should be continued for the duration of the war, and the program "continued after the cessation of hostilities as an Air Reserve Training Corps," a resolution said, adding that the Civil Pilot Training Act of 1939 should be amended to extend its life.

### Research "Essential"

Continuance and expansion of intensive research on all aspects of aviation is "an essential for national security and the national welfare," the Clinic said.

Other resolutions adopted were:

That the Clinic was "definitely in favor of the preservation of private ownership and management of air services operating under reasonably regulated competition."

That the postwar airport program in any

### Arnold's Observer at Clinic



Indication that the Army Air Forces viewed with some importance the First National Clinic of Domestic Aviation Planning in Oklahoma City was seen when Commanding General H. H. Arnold sent Col. Charles H. Deerwester (above) as his personal observer. Col. Deerwester is AAF legislative and liaison officer in Washington.

state "should be by cooperation of both the federal and state authorities in each instance."

That a standing committee on aviation education be created by the Clinic "for the purposes of cooperating with existing agencies and institutions in the encouragement, extension and implementation of aviation education in all organized schools and school systems of the nation."

That east and west coast airports be opened for CAP flight instruction, housing and servicing of aircraft and that they be completely reopened as soon as possible.

That CAA revise its directive requiring guards 24 hours daily at all airports.

That all possible measures be taken by state, national and local authorities to multiply the number of airports suitable for personal aircraft, and that "for the national welfare, as well as the convenience of the public, regulations be as simple, clear and uniform as is consistent with the general welfare avoiding to the utmost possible degree all conflicts or ambiguities between the rules promulgated by different regulatory authorities."

## Airlines Will Get 'Bulk of Long-Haul Express'—Graddick

Postwar airplanes will take a "considerable" volume of cargo from surface carriers, but the transition from surface to air operations will come so gradually that adjustments will be made easily by the surface carriers, C. P. Graddick, director of the air cargo department of United Air Lines, believes.

In an address at the Oklahoma City Clinic, Graddick declared "there is no reason why an airline, a railroad, and a trucking company serving the same territory should not be able to be competitive and at the same time work together in assisting communities to raise their standards of living and thereby create more business for all."

He predicted the public will "demand" that all long-haul first-class mail be transported by air soon after the war, and that air parcel-post will be inaugurated "in order that the full benefits of air may be brought to every community in the land—even to the most humble farmhouse."

"Furthermore, in those instances where air express fails to give the desired service to long-haul second and third class matter, we probably will see postal air rates established which the public may use for those classes of mail matter," he added.

The airlines can count on carrying a substantial per cent of the long-haul express, and "we may even get into the short-haul field where connections are involved," Graddick asserted.

"How long we take to reduce rates to the point where this business can be attracted will depend on how fast planes are developed which will allow us to reduce the rates. Even a fractional part of the air potential of surface traffic would provide tremendous air tonnage," he added.

# Over-Expansion May Endanger Aviation's Future, Says Branch

**PREDICTION** that domestic airlines within a year after the war ends will be flying twice as many schedules over heavy traffic routes as were operated in 1941 was coupled with a warning against over-expansion by Harilee Branch, member of the Civil Aeronautics Board, in an address on "The Domestic Air Pattern for Tomorrow" at the Oklahoma City Clinic.

No industry in the country has a more assured future, he said, and air transportation is in a favorable position for getting quickly back into normal operations for an accelerated and prosperous growth. On the basis of its healthy financial condition, existing operating organizations, and the almost immediate availability of suitable equipment, he foresaw the beginning of large operations after the war without delay.

At the same time, Branch gave an indication of CAB's reaction to the current flood of new route applications with the statement: "Its decisions on applications for new routes must be founded on something more substantial than enthusiasm and over-optimism."

"No one who has the sound development of the air transportation industry at heart," he said, "wishes to see its future endangered by over-expansion. CAB is duty-bound to resist any pressure directed toward uneconomic or unsound expansion."

The shape of another pattern was seen also in the former air mail superintendent's comment on mail pay:

"The majority of our domestic carriers are doing so well financially on their commercial services that they no longer have any need for a mail pay rate which includes any subsidy. Even though an air carrier earns such substantial profits on its passenger and express services that it does not require any government subsidy, it is entitled to a fair and reasonable service rate for transporting the mail and such a rate must reimburse the carrier for all costs properly allocable to its mail service and also provide it with a fair and reasonable profit on that amount of its investment apportioned to the mail service. A self-supporting air carrier—one which no longer requires any government subsidy—makes a much stronger appeal to investors than one which depends upon subsidy."

Drawing a parallel between the present trend of applications and the era of short line railroad booms, Branch declared that Congress in giving CAB a directive to foster sound, economic conditions in the air transportation services "undoubtedly desired to avoid in air transportation anything similar to the economic tragedy of the shortline railroads."

He predicted there will be numerous charter air transportation services—non-scheduled services with planes and experienced personnel to serve the public need for special air trips of substantial distances.

Particularly in local feeder services, he said, the dollar cost of operation will be an important factor in determining the

scope of operations. "Every proposed route must be judged by the public service it will render as compared with the cost to the government," he declared.

Among questions in the domestic post-war air pattern, he said, are:

"Shall there be mergers of financially weak airlines, serving thinly populated territory, with financially strong airlines serving thickly populated territory?

The position of those who favor such mergers is that they improve the financial condition of both interests involved and enable the airlines formed as a result of such mergers to provide a better public service. It is also argued that the merger of a weak carrier with a strong carrier eliminates or lessens the probability that the operation heretofore conducted by the weak carrier will require continued government subsidy.

"There are some who express apprehension concerning such transactions. They fear that if mergers are permitted some carriers will obtain regional monopolies and that through mergers the domestic air transportation industry may get into the hands of a very few powerful companies. Of course, the Board must see to it that any change in the present pattern will be in the public interest. It took a position against a regional monopoly in the United-Western Air merger case, and it is required by the Civil Aeronautics Act to see that sound competition exists between air carriers."

## Course in Helicopter Design Conducted at Princeton

A four weeks' course in helicopter design for engineering officers and civilian engineers of the Army Materiel Center, Wright Field, the Navy Bureau of Aeronautics, Civil Aeronautics Authority and engineers from the aircraft industry was conducted during October and November at Princeton University.

The course was taught under direction of A. A. Nikolsky, associate professor of the Department of Aeronautics. The program consisted of a review and discussion of the following subjects:

Modern air screw theories; Vertical "Power Off" flight (windmill brake and vortex wing state); Vertical "Power On" flight; Forward flight; Design flight conditions and design of the rotor blades; Oscillations of the rotor blades (ground resonance); Links and hinges; Static stability; Control; Dynamic stability.

## Suggests State Tax on Planes

Airplanes in New Hampshire should be taxed to prevent the tax burden on real estate from being increased through post-war spending by municipalities, counties and the state, it was suggested by John R. Spring, chairman of the New Hampshire state tax commission in an address at the recent joint conference of the Association of New Hampshire Assessors and the New Hampshire City and Town Tax Collectors' Association.

## Leisure Sees Danger in 'Stampede' for Postwar Air Routes

**AIRPLANES** SUITABLE for local service will not be ready until at least a year after Germany collapses, and commercial helicopters are at least another year off, C. Edward Leisure, chief examiner for the CAB told the Oklahoma "clinic."

Leisure warned that the present "stampede" of route applications must be handled judiciously. The success of the airplane in war and the place it has captured in the public imagination, as well as the over-emphasis being placed upon the expression "postwar planning" was referred to by Leisure as a sort of beanstalk to be grown now for Jack to climb later.

"The tendency toward a stampede may well be disastrous to our first chance to expand a transportation system on an economically sound national basis," Leisure declared.

After a lengthy review of the salient points of the recent feeder-pickup hearings held by CAB, he presented the following as among his major conclusions:

"Many persons have proposed immediate action upon applications to engage in local air transportation. These fall into two groups, (1) those proposing the granting of certificates in the very near future for operation after the war, and (2) those who feel that actual operations can and should be inaugurated immediately. The first group are motivated by a desire to see early detailed planning for actual operation by those who are to provide the service, in order that operations can be inaugurated as soon after the cessation of hostilities as possible. Those proposing immediate operations apparently feel that a needed public service can be provided at once with available equipment, and at the same time valuable experience can be gained for use in the postwar period. Both of these courses might, as stated by their proponents, help prevent the breaking up, when the emergency is over, of existing organizations such as pilot training schools, as well as create positions which will help absorb many of the highly trained men returning from the armed services . . .

"It appears from a rough check that there are quite a number of single-engine cabin aircraft now in existence which could be operated in some type of common carrier service provided they could be released from the essential work in which they are now engaged. These aircraft consist of a miscellaneous assortment of four- or five-place ships with small payloads. They are suitable for day contact operations only. Rates, of necessity, would be high and the service, in my opinion, would be little better than a charter service. Such transportation in many ways would be a disappointment to those newly-won aviation enthusiasts on whom we rely so much in our estimates of increased air traffic in the postwar period, and who have been brought into the air by pictures and stories of this new, fast, super-modern, personalized transportation service."

# Parrish Calls for 'Control' of Surplus Aircraft Disposal

AVIATION'S PROBLEM NO. 1 in the disposition of surplus aircraft after the war is to get the handling of airplanes separated from other surplus war materials, Wayne W. Parrish, editor of *American Aviation* and *American Aviation Daily*, said in an analysis of the disposal question before Oklahoma City Clinic.

The answer lies in a properly established government agency, the creation of which is now urgent, he emphasized. Outlining legislation now pending, he warned that the full problem of disposition of surplus materials is likely to be upon us before Congress gets around to acting.

"Postwar disposal of surplus aircraft must be controlled or we might as well put our aircraft manufacturers into bankruptcy and have them close their doors," Parrish said. "The airplane must be separated from other surplus war materials because it has nothing in common with shoes, tents, tanks, machine guns and eating utensils. The airplane has a triple personality which makes its control extremely vital. It is military, commercial and political. It is international in its ramifications. Its disposal cannot be effected in the same way as other war goods."

## 12,000 Surplus Cargo Planes

At the top of the list will be an estimated 12,000 surplus transport cargo planes—compared to the 365 planes in domestic airline operation before the war. There will be tens of thousands of surplus combat military aircraft with no commercial value except as salvage for instruments, engines, and the like. Of the thousands of lightplanes and trainers, a fair proportion can be used for civilian aviation, said Parrish.

He listed three major principles in coping with the problem:

"The first consideration in the handling of surplus aircraft is the taxpayer. As much salvage, conversion, leasing and reselling value as possible should be obtained as a credit to the U. S. Treasury.

"The second consideration is the manufacturing industry. There is no better way of keeping employment high in the aircraft industry, and to keep many of our plant facilities open, than to permit industry to recondition, to convert airplanes for commercial uses, and to salvage for credit the equipment not usable commercially. Let the men who knew how to build the airplanes have a part in taking care of their disposition . . .

"The third consideration is our air transport industry. Why not have a government agency which would lease transport equipment to our airlines during the time when they are awaiting new and larger airplanes?

"There have been many proposals to give, lease or sell our surplus equipment to foreign countries. Dumping aircraft into the foreign market can be disastrous, but by an orderly government process we might well realize a reasonable value out of our aircraft by sensible selling of equipment to certain foreign countries for national airline or cargo or other operations that will not compete with our own international operations.

"But it is most important that no aircraft be sold that has not been thoroughly reconditioned or converted by the manufacturers. The primary benefits of spreading our airplanes around the world is to provide a commercial link with our manufacturers for future purchases. Without factory help, without a flow of spare parts, without the necessary link between factory and customer, the mere distribution of airplanes to foreign users will be of little benefit. We should also make certain that distribution of aircraft to foreign countries, whether it be by leasing or selling, does not work to the disadvantage of our air transportation systems.

"In the private flying field, it is equally important that training and other light airplanes be given back to the manufacturers for reconditioning before they reach a private market. Here again, the manufacturers must be protected so that surplus war airplanes do not destroy the necessary postwar market for manufacturers of personal airplanes . . .

"Certainly the Army and Navy will retain a large portion of first-line combat aircraft. The job of supplying parts, of reconditioning, and making improvements, belongs to the manufacturers . . .

"There is one other suggestion for the disposition of aircraft, especially the obsolete types which have no longer any military value. There are some 28,000 high schools and colleges in the United States. We would well afford to give to each school a military airplane and an engine and perhaps obsolete instruments for use in ground instruction and educational work."

Relative to legislation, Parrish pointed out that the O'Leary bill which has passed the House would create a joint congressional committee to study disposition of surplus war materials, but that by merely authorizing such a study Congress will have "moved only a very short distance on the road that must be traveled."

The most sensible, concrete and realistic plan yet proposed, he said, is contained in a bill by Rep. Lea to create a Surplus Aircraft Corp. on the board of which would be representatives of the War and Navy Departments, Civil Aeronautics Board, manufacturers and others. This bill has been pending in committee for months with no early prospects of hearings or other action.

## Economy

The economy of transportation by personal plane was emphasized at the First National Clinic of Domestic Aviation Planning by W. T. Piper, president of Piper Aircraft Corp. When you ride 10 miles in a car you use five million dollars worth of highway, he said, adding that "I can fly 100 miles and use only a \$2,000 airport." Small "cow pasture" fields are all that are needed for personal planes, he pointed out.

**'Expansion of Lightplane Factories Proportionately Equal to That of Heavies'**

Utility will be the chief factor in expanding sales of light aircraft after the war, Joseph T. Geuting, Jr., Vice President of General Aircraft Corp. and chairman of the Personal Aircraft Committee of the Aeronautical Chamber of Commerce, said in an address at the Oklahoma City Clinic.

He emphasized that wartime expansion by manufacturers of the smaller and lighter planes has been proportionately as great as that of the builders of big bombers, fighters and transport planes, and that their approach to future problems is based upon the premise that every segment of the aviation industry must be strong and sound in peacetime.

"Its tremendous wartime expansion will certainly need drastic adjustment in the postwar era," he said.

In addition to Geuting, delegates of the Personal Plane Committee to the clinic were Don Flower of Cessna Aircraft Co., Carl Wootten of Beech Aircraft Corp., and John E. P. Morgan of Washington, manager of the recently created Personal Aircraft Dept. of the Chamber.

## Insurance for the Future

"We in industry and we in government must see to it that adequate manufacturing facilities and adequate trained personnel are available to assure a continuing industry that, first of all, backs up America's airpower as protection and insurance for the future, and at the same time is a growing factor in turning out peacetime products," Geuting said.

He called for cooperation with the government in development of adequate landing facilities for all types of aircraft particularly those in personal use, and in attaining "constructive regulatory rules which experience will show are in the best public interest." While recognizing the need for regulation of aviation, he urged upon personal aircraft manufacturers "a spirit of cooperation and responsibility that will keep regulation at its constructive minimum."

Declaring that aircraft for personal use will have to compete with the particular appeals of various forms of transportation, Geuting said "the glamour of flying has sales appeal but we cannot make a business out of glamour."

"Airplanes are just another form of transportation," he added. "Personal aircraft in peacetime must have utility and utility means much more than just the aircraft. It means many and convenient landing facilities, simple easily-understood and unhampering regulations and practical weather and navigational aids. We will best serve the public interest and put the industry on a solid footing by intelligent planning and cooperation."

## Millionth Pound

Southwest Airways' Cargo Division—a feeder airline which flies high priority Army cargoes from central supply depots to numerous West Coast military installations—recently carried its one millionth pound of freight, the company announced.

plane  
ately  
vies'

er in ex-  
after the  
ce Presi-  
and chair-  
ommittee  
of Com-  
the Okla-

expansion  
ller and  
tationately  
s of big  
t planes,  
re prob-  
ise that  
industry  
eacetime  
xpansion  
ment in

gates of  
to the  
sna Air-  
ach Air-  
organ of  
recently  
of the

overnment  
manufac-  
trained  
e a con-  
ll, backs  
tion and  
the same  
ning out  
aid.

with the  
inadequate  
of air-  
nal use,  
gulatory  
y are in  
e recog-  
of avia-  
aircraft  
operation  
p regu-  
um."

onal use  
particular  
transporta-  
of flying  
make a

form of  
Personal  
utility  
han just  
and con-  
easily  
ulations  
gational  
blic in-  
a soli  
and co-

1943



**FIRST...**

Hallicrafters has the  
honor of being the 1st exclusive radio  
manufacturer to receive the Army-Navy  
Production Award for the 3rd time!



BUY MORE BONDS!

The World's Largest Exclusive Manufacturer of  
Short Wave Radio Communications Equipment

**hallicrafters**

## 'No Profiteers In Aircraft Industry', Callery Declares

Francis A. Callery, vice president in charge of finance, Consolidated Vultee Aircraft Corp., assailed those who call aircraft manufacturers "profiteers" in an address at the Oklahoma City Clinic.

"It is a fighting word to call people in the aircraft business 'profiteers,'" he declared. "A recent study showed that 11 major airframe manufacturers had profits in 1942 of \$79,000,000. The current liabilities of these same companies at the end of the year were \$1,565,000,000. In addition, they had commitments to subcontractors and vendors in the amount of another \$1,500,000,000. What this really means is that the profit of \$79,000,000 is subject to and submerged under a weight of liabilities and commitments aggregating \$3,000,000,000."

He used this example to illustrate that alleged profits in the aircraft industry become real profits only after liabilities have been liquidated.

"It doesn't take a mathematician to see what could happen to profits of this kind if the going should get tough during the liquidation period," he said.

Callery pointed out that the renegotiation law was passed when taxes were relatively low, and, a few months later, a new revenue bill was enacted and overall tax rates were raised to 80%.

"The real job of preventing profiteering is done by taxes. Renegotiation plays only a minor part in this respect," he declared. "It has become, however, in effect an extra legal super taxing authority with no rules, regulations, yardsticks, or other measuring devices established either by the renegotiators themselves or by Congress."

In this role, said Callery, renegotiation comes close to being "the straw that breaks the camel's back."

Termination of contracts involves two problems, in Callery's opinion:

1. Getting paid for the work done and for the expenditures incurred up to the date the contracts are cancelled.

2. The carrying of operating expenses, which are incurred in connection with these cancelled contracts, from the date of cancellation until these expenses can be eliminated without undue hardship to the workers or to the communities in which they live.

## Five Aviation Men Named to Assist in Developing Los Angeles Air Terminal

Five aviation men will serve on a citizens' committee to work with the Los Angeles Airport Commission in developing the city's municipal airport program, it was announced last fortnight. Among 21 committeemen named by Mayor Fletcher Bowron are:

La Motte T. Cohu, chairman of the board, Northrop Aircraft, Inc.; J. C. Garrett, president of AiResearch and Garrett Corp.; Ben O. Howard, director of flight operations, Douglas Aircraft Co.; Leonard K. Schwartz, assistant to president, Lockheed Aircraft Corp.; Leland R. Taylor, assistant to the president, North American Aviation, Inc.

## Lea Bill Fight

(Continued from page 23)

that the airlines represent "a minor part of civil aviation, and private flying and fixed base operation represent a major part of civil aviation whose operations are not interstate in character and therefore are of no concern of the federal government, the pending legislation would deny to the states their inherent rights to govern within their own state and would seriously jeopardize private flying and fixed base operations."

It was further that "there is no immediate need for this legislation as the President of the United States is vested with full power under the Defense Act to regulate all aircraft, civilian or otherwise."

Men who are now in the armed services "are unable to voice their sentiments or opinions on this proposed legislation at this time, and they are the persons who have contributed more to the development of aviation and are entitled to their place in aeronautics when and if they return from active duty," it said, adding that "there is ample time for such legislation to be considered in the future since consideration has not been given future development and improvement which will change methods now used in the regulation of aircraft." Thirty-one out of 39 states in NASAO were represented at the meeting when the resolution was adopted.

### 'Volstead Act'

A NASAO press release called the bill "an aviation Volstead Act," claiming that it "abolishes the public right of freedom of air commerce; gives complete and absolute control over every phase of air commerce to federal administrators without regard for the Constitutional rights of states to regulate these affairs within their own borders. By its restrictions the Lea bill would make impossible the continuance of free competitive enterprise by which the now major airlines were established. It would actually prevent the small fixed base operators—the men who must pioneer a true nationwide air service—from exercising this right of free enterprise. The Lea bill would extend bureaucracy to the last detail of air commerce by requiring individuals employed by manufacturers of aircraft parts or appliances to obtain licenses from federal administrators.

"Support of the Lea bill is diminishing as its complicated provisions become better understood."

NASAO's legislative committee is headed by Leslie Schroeder of the Minnesota Commission of Aeronautics. Other

### Plea for Unity

A plea for unity between the various segments of the aviation industry was made at the First National Clinic of Domestic Aviation Planning by Roscoe Turner, noted flyer and president of Roscoe Turner Aeronautical Corp., Indianapolis. If the industry doesn't get together "the busses and the railroads are going to step in and catch that worm we scratched up while we were fighting," he said.

members are Hayden Brooks of Alabama and William Anderson of Pennsylvania.

In spite of the strong resolution and press release, the state officials may attempt to work out their differences with the airlines, Schroeder told *American Aviation*. "We don't think we're so far apart," he said. He further explained that many Lea bill provisions to which the states object do not concern the airlines at all. If a mutually satisfactory version of the bill was forthcoming, further action of NASAO would be necessary to get any change in the resolution, which states that nothing should be done until after the war, Schroeder pointed out.

### Severance Necessary

Watkins, in his statement released after the close of the Clinic, said: "Some of the delegates feel that it is absolutely necessary to get a severance from the air transport group so that the future of the nation's industry can be assured by the adoption of a different type of program than will be possible under the Lea bill . . .

"I made the statement that we have got to discard the idea of dumping all aviation into one basket which is just about parallel to putting Buick and Chrysler under the Interstate Commerce Commission because the Santa Fe and Pennsylvania Railroads are there. This also applies to charter plane owners, operators and their related groups upon whom the small aircraft industry must rely for a major part of its market . . .

"It is in no sense a discordant action for the small manufacturers to get together and work up a program which goes beyond that which can be accomplished under the Clinic's set of resolutions. Some of us who remained in Oklahoma City after the Clinic determined personal aircraft interests should proceed immediately to form a front of their own outside the older organizations which are committed too broadly to represent us properly. Letters will be written to manufacturers asking them to express their wishes regarding a temporary national association to promulgate our own program and offer help to the weaker groups such as the charter plane owners and school operators.

### Must Decide Structure

"One of the propositions besides the Lea bill is whether the CAA is to continue in its present form after the war. None of us advocate changing horses in the middle of the stream and therefore we are quite willing to wait until peace comes to get action but we certainly ought to have decided before that time just what kind of a structure we need."

When the Clinic closed and the smoke cleared away, it could be seen that the airlines had—on the record, at least—been very quiet about the Lea bill, the only public pronouncement being that of Col. Gorrell. No attempt was made to answer arguments against the bill, and the feeling in some airline quarters was that the states had violated the truce by keeping the bill constantly in the headlines. State officials, on the other hand, wanted to make sure that their position was clear.

Alabama  
Pennsylvania  
tion and  
may at-  
ances with  
American  
are so far  
explained  
to which  
the air-  
unsatisfactory  
ing, fur-  
the neces-  
resolution,  
be done  
pointed

sed after  
Some of  
absolutely  
from the  
the future  
assured  
type of  
under the

we have  
haping all  
is just  
ick and  
ommerce  
Fe and  
re. This  
ers, op-  
ps upon  
ry must  
et . . .  
nt action  
get to  
n which  
accom-  
l resolu-  
ained in  
c deter-  
s should  
front of  
nizations  
eady to  
will be  
them to  
a tem-  
promul-  
help to  
charter  
ors.

the La  
ntinue in  
None of  
in the  
fore we  
ll peace  
certainly  
that time  
e need  
e smoke  
that the  
least-  
bill, the  
that of  
made to  
bill, and  
ters was  
true by  
e head-  
er hand  
position



# "Cushions"

for the

## Constellation's Cargo

★ The Lockheed C-69, called the Constellation, is America's largest, fastest and most powerful land-based cargo or transport airplane.

Because this huge plane is equipped with Aerols, it lands with effortless ease even when heavily loaded. Aerols effectively cushion the Constellation from landing shocks, and provide complete protection to the plane, crew, and cargo.

THE CLEVELAND PNEUMATIC TOOL COMPANY  
AIRCRAFT DIVISION • • CLEVELAND 5, OHIO

Also Manufacturers of Cleco pneumatic tools for the aircraft and general industry, Cleco sheetholders, Cle-Air shock absorbers for trucks and buses, and Cleveland rock drills for mining and construction work.



# AEROLS\*

\*THE SHOCK ABSORBING UNITS ON AN AIRPLANE'S LANDING GEAR; THE NAME IS DERIVED FROM THE WORDS "AIR" AND "OIL"—THE FLUIDS USED TO DISSIPATE THE LANDING SHOCKS



RYAN-STANDARD cabin plane; pioneer passenger airliner.



RYAN M-1, first production monoplane in America.



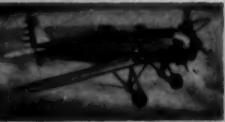
1934  
RYAN S-T metal-fuselaged primary trainer; led trend to low-wing types



1935  
RYAN S-C, cabin plane for private-owner use, featured all-metal construction.



1940  
RYAN YO-51 "Dragonfly", Army observation plane with unique performance ability.



RYAN PT-22, one of Army's standard primary training plane types.



RYAN PT-25, superbly engineered plastic-bonded plywood trainer.

## The Ad Customers Wrote for Us

Advertising slogans are often created by advertising men instead of by the reputation of the products they describe. In contrast, the slogan "Ryan Builds Well" was inspired by the proven record of excellent performance and low maintenance of Ryan planes.

### A SLOGAN THAT PROVES ITSELF

The head of a War Training Service flying school in the Southwest writes from a base at which Navy pilots are being trained: "As a trainer the Ryan S-T is tops. Maintenance is phenomenally low. Our S-T's have demonstrated they can take the exceptional abuse of flight training programs. . . . We regard it as the finest intermediate or secondary trainer we have ever used. . . . Many fighter pilots flying off carriers today can truthfully say they owe a lot to these silver beauties."

Another, the head of large scale training operations in Texas, writes: ". . . they have continued to be the most satisfactory secondary trainer we have ever used. . . . Their maintenance definitely outstanding. . . . We have never received better service from any company. . . . I believe the high quality of our students has been to a large degree directly attributable to their training in these Ryans. . . . I am keeping one especially for my own use and for pilot checking purposes."

### BUILDING WELL FOR UNCLE SAM

Ryan's current activities include the engineering, development and manufacture of the most advanced type combatant airplanes and important assemblies for the armed services. Publication of detailed information on these is, of course, restricted.



# RYAN

*Rely on Ryan to Build Well*



### RYAN BUILDS WELL

Ryan construction, proven in aviation's pioneer days, now proven in war, will tomorrow produce safer, more useful peacetime aircraft.



### RYAN TRAINES WELL

Ryan School of Aeronautics, famous peacetime air school, now training fine U.S. Army pilots, follows one creed: Thoroughness.



### RYAN PLANS WELL

Modern engineering + flying experience. Typical result: Ryan exhaust manifold systems are now used on the finest planes of other manufacturers.

RYAN AERONAUTICAL COMPANY, SAN DIEGO — MEMBER, AIRCRAFT WAR PRODUCTION COUNCIL, INC.

Ryan Products: Army PT-22s; Navy NX-1s; Army PT-25s; S-T Commercial and Military Trainers; Exhaust Manifold Systems and Bomber Assemblies.

# 2 Capital Events to Mark Wright Flight Anniversary

THE 40TH ANNIVERSARY of the Wright Brothers' first flight will be marked in Washington by two events on Dec. 17 which are being given a big place on the aviation industry's calendar for the month.

Climax of the day will be an anniversary dinner at the Statler Hotel sponsored by all government departments interested in aviation and private groups in the field of aeronautics. Orville Wright, inventor of the airplane, has accepted an invitation extended by President Roosevelt to be the guest of honor at this dinner.

Earlier in the day the annual Wright Brothers Lecture, a distinctive landmark each year, will be presented in Washington.

On the same day Mr. Wright will be honored at a private luncheon of the National Advisory Committee for Aeronautics, and then will attend a regular meeting of NACA, of which he has been a member for several years.

The Wright Brothers' Lecture, which will be the 7th, will be presented at 5 p.m. in the United States Chamber of Commerce auditorium by W. S. Farren, Chief Superintendent of the Royal Aircraft Establishment, England. He will speak on "Research for Aeronautics, Its Planning and Application." This event is sponsored by the Institute of the Aeronautical Sciences in cooperation with the National Aeronautic Association and the Aeronautical Chamber of Commerce.



Orville Wright

The anniversary dinner, in which the government departments are taking a leading part, is scheduled for 8 p.m. in the Statler Hotel. Representatives of all the United Nations, all members of the President's cabinet, ranking Army and Navy officials and Congressional leaders have been invited to attend, as well as leaders in all branches of the aviation industry. Invitations to the dinner, which will be limited to 800 persons, have been issued by the Committee on Arrangements headed by Robert H. Hinckley, chairman.

The theme will be "Aviation in Peace" and will emphasize the part which aviation may be expected to play in peace and the maintenance of peace.

As announced by the Department of Commerce, the anniversary committee is headed by Jesse Jones, Secretary of Commerce. Other members are L. Welch Pogue, chairman, Civil Aeronautics Board; Robert A. Lovett, Assistant Secretary for Air, War Dept.; Artemus L. Gates, Assistant Secretary for Air, Navy Dept.; Dr. Jerome Hunsaker, chairman, National Advisory Committee for Aeronautics; William A. M. Burden, special aviation assistant to the Secretary of Commerce; Gill Robb Wilson, president, National Aeronautics Association; Lester Gardner, Institute of the Aeronautical Sciences; James P. Murray, Aeronautical Chamber of Commerce; Col. Edgar S. Gorrell, Air Transport Association; and Tom Morgan, Sperry Corp.

## Feminine Ability

Feminine ability in the test pilot field was proven last fortnight by three women. Mrs. Barbara Jayne, wife of a Navy flier; Miss Elizabeth H. Hooker, Smith College graduate who has flown since she was 15; and Mrs. Teddy Kenyon, who won her pilot's rating 14 years ago, took to the air over the Grumman Aircraft Engineering Corp. plant in Bethpage, L. I., and were applauded for the manner in which they "broke in" the Navy's newest Hellcats and Avengers. The demonstrations included dives from 9,000 feet, slow and snap rolls, and speeding in the Hellcats at 400 mph.

## Henry Ford Reveals Postwar Plans for Willow Run Plant

An indication of the role to be played by Henry Ford after the war was given last fortnight when the veteran manufacturer revealed plans to produce multi-engined cargo-passenger planes at Willow Run.

Ford disclosed that the government had given him first option on the giant bomber plant for postwar use, and that he plans to take up the option if only "to create jobs for the people who will need them."

Ford associates say that the manufacturer and Charles A. Lindbergh have been in frequent consultation recently regarding a postwar plane "which will not need such tremendously long runways for takeoff and landing, a plane which can be operated at a fraction of the cost now necessary for flying big planes, and one which will be as positively safe as it is possible to make it."

They also reveal that the Willow Run floor plan was designed originally in such a way that planes "much larger than the B-24" could be produced there.

The Ford announcement said the company anticipates great expansion after the war, possibly including a new plant in England.

## 'Kitty Hawk Day'

North Carolina will observe "Kitty Hawk Day," 40th anniversary of the Wright Brothers' flight, with a program at 10 a.m. on Dec. 17 on Kill Devil Hill at Kitty Hawk, N. C., where the first powered flight was made. Gov. J. Melville Broughton has appointed a state committee headed by Congressman Herbert Bonner and a Dare County committee headed by Sheriff Victor Meekins to arrange the event. A number of notables in the field of aviation have accepted the governor's invitation to be present at the Kitty Hawk ceremonies.

## Brewer Trophy Award

### Part of Wright Program

Presentation of the annual Frank G. Brewer Trophy Award for 1943 to the individual or organization having made the most outstanding contribution in the field of Air Youth education and training will be made in Washington, D. C., in connection with the program observing the 40th anniversary of the Wright Brothers' flight, it is announced by the National Aeronautic Association.

The award was established by Frank G. Brewer of Birmingham, Ala., in honor of his two sons, a bombardier and a paratrooper now serving overseas.

Administering the award are two committees. The executive committee is composed of William Enyard, president of Simonds Aerocessories, Inc.; W. P. Redding, executive vice president of NAA; Dr. George W. Lewis, director of NACA; Leslie Neville, Editor of Aviation; Haydon Brooks, chairman of the Alabama Aviation Commission, and Robert H. Hinckley, vice president of Sperry Corp.

On the advisory committee are: Capt. E. V. Rickenbacker, president of Eastern Air Lines; L. O. Head, president of Railway Express Agency; Mrs. Thomas H. Beck, Girl Scouts National Board; and Ralph Cooper Hutchinson, president of Washington and Jefferson College.

## Old Planes, Parts Being Used In School Aviation Courses

Old Army planes as well as other surplus or obsolete engines, airframe parts, and instruments, are receiving a new lease on life as a result of a program recently instituted by the Civil Aeronautics Authority providing for their use in school aviation courses.

CAA officials stated that equipment which was cluttering up valuable space at Army depots or being sold for scrap is now moving into classrooms and laboratories for a renewed period of usefulness.

Schools from every state, except Florida and Arkansas, have had their requests for this equipment processed under the direction of Bruce Uthus, of the CAA staff. The requests came from 737 schools.

By mid-November the Army, through CAA, had offered 59 airplanes and 226 engines without charge except the cost of shipping. About 100 similar requests have been serviced through Navy department stations.

CAA has received many enthusiastic letters from institutions receiving the equipment and all recipients believe this program will go a long way toward stimulating interest in the study of aviation and related subjects.

# Existing Plans for International Competition Not Feasible—Burke

By KATHERINE E. JOHNSEN

**D**ISSENTER TO THE Interdepartmental Committee's Majority report, chief of the State Department's Division of International Communications, Thomas Burke, is currently pointing out in aviation circles that his first choice for postwar foreign aviation is to allow maximum competition.

He calls attention to his record for verification: he has testified before both Houses of Congress in opposition to a pre-war monopoly on foreign air transport.

Burke explains his well-known sponsorship in the State Department of a "chosen instrument" combine for the postwar by saying that with the facts he has on hand—for example, the sharply limited payload possibilities after the war for at least several years—he does not believe a plan for competition, such as that advocated by the 16 domestic lines is "feasible."

Burke does not take the excellent performance of the domestic lines in foreign operation under the Army and Navy Transport Commands as a demonstration that they can successfully perform if transposed to a peacetime world based on competitive international commercial enterprise.

## Must Know Imponderables

Burke, it is understood, approves many of the reported recommendations of the Interdepartmental Committee "in theory." He objects vigorously, however, it is said, to the assumption that a plan for postwar aviation can be drawn up before the imponderable in the situation are known.

He agrees 100 per cent with the contention of Chairman Josiah Bailey (D., N. C.) of the Senate Commerce Committee and others that even the broad outlines of a plan cannot be accepted until it is known clearly how the postwar world will shape up. Burke is a firm believer that postwar aviation's plan cannot be blueprinted separately and distinctly, but must be intricately interwoven with broader plans dealing with basic aspects of foreign commerce.

Burke originally promoted a plan in the Government for an over-all aviation company comprised of domestic companies, Pan American Airways, and Panagra, but later revised his scheme.

Concerning this revision, Burke told *American Aviation*:

## 500 Million Company

"I made the recommendation that since most of the opposition to a joint operation was based on a feeling that Mr. Trippe would attempt to dominate the situation through Pan American's preponderant stock and holdings in a single company—consideration be given to the establishing of a \$500,000,000 corporation which might consider buying Pan American's interests, exclusive of Latin America, so that under redistribution of the stock Pan American would have no more weight on the board of the new company than any other company.

"Advantages of this plan would be:

"(1) Several of the domestic airlines could participate in the joint company, without merging their corporate entities

or losing their domestic identity in the giant over-all company.

"(2) This would be based on the assumption that pre-war landing rights of Pan American would accrue to the over-all company thereby eliminating the long drawn-out hearings that would have to follow if such an arrangement were not to be made.

## Simplify Landing Rights

"(3) Such an arrangement would tend to simplify the complicated process of obtaining landing rights for several U. S. companies abroad.

"(4) This arrangement would assure the U. S. Government of a united front and therefore a maneuverability that would not be inherent in the principle of independent company operations.

"(5) In the light of the fact that the incoming Congress will undoubtedly be economy minded, such an arrangement would appeal more strongly—from the standpoint of simplified administration—than the proposal (of the sixteen domestic lines) which presupposes that each company would establish independent administrative and maintenance organizations throughout the world."

## UAL Sponsors Radio Show

United Air Lines is sponsoring a weekly radio program on the Pacific Coast entitled "In Time to Come." It salutes Pacific Coast progress in aviation, and forecasts future aviation developments on the Coast.

## Senate Approves Measure Authorizing \$30,000,000 For 'Coal Gas' Promotion

The Government is authorized to invest up to \$30,000,000 in the development of fuels from coal—including aviation gasoline—in legislation which has been approved by the Senate.

The bill was sponsored by Sen. Joseph O'Mahoney (D., Wyo.). A companion House bill is being pushed by Rep. Jennings Randolph (D., W. Va.), who recently flew from Morgantown, W. Va., to Washington, D. C., in a plane powered with coal-processed aviation gas to prove the feasibility of using the nation's vast supplies of coal for liquid fuels, in view of a rapidly-diminishing reservoir of crude oil.

The Randolph bill has been reported out by the Mines and Mining Committee and now awaits House action.

Enthusiastic about the bill, Acting Petroleum Administrator for War, Ralph K. Davies, wrote Randolph when it was approved by Committee: "This brings us one step nearer the enactment of legislation which I consider essential to the fuel economy of the Nation."

"It is quite true that we are faced with a shortage of crude oil supply," said Davies. "The discovery and development of new crude oil reserves has not kept pace with the mounting demands of the armed forces and essential civilian requirements for petroleum products. The cold hard facts indicate that by the end of 1944 we shall require the importation from foreign sources of approximately 300,000 barrels of crude oil daily to meet the projected demand."



American Aviation Photo

Rep. Jennings Randolph, left, Maj. Arthur C. Hyde, and Sen. Joseph O'Mahoney, advocates of the development of aviation gas from coal, display the "beginning and end" products to a crowd welcoming Randolph and Hyde at Washington National Airport after they successfully completed the first flight to be made in the United States in a plane powered with coal-processed fuel.



## TEAMWORK!

In this war it's teamwork that counts. We see it everywhere—the Navy cooperating with the Army—Air Force pilots softening enemy defenses for the Infantry—civilians in all kinds of work pulling together on the home front.

The Piper Cub "Grasshopper" plane, too, is teaming-up with many branches of the Service. For example, it works with the Artillery—acting

as an aerial observation post. When necessary, the observer sends firing corrections to the battery by radio and the guns drop shells directly on the target. It's this kind of teamwork that is bringing Victory nearer every day.

And when Victory comes, Piper will again serve peacetime America. Then, you can own a smart new Piper Cub plane—a team-mate that will carry you on your business and vacation trips with ease, pleasure, safety and economy.

**FREE BOOKLET ON HOW TO FLY.** Send today for your copy of "You, Too, Can Fly!" If you also want the full-color Piper catalog, enclose 10c in stamps or coin for postage-handling. Piper Aircraft Corporation, Dept. AA123, Lock Haven, Penna.

**16mm. SOUND FILM**—"The Construction of a Light Airplane." For distribution points write: Supervisor, Audio-Visual Aids, Extension Services, Penna. State College, State College, Penna.



**PIPER Cub**  
Points the Way to Wings for All Americans

# Baruch to Determine Policy on Postwar Reconversion Problems

THE APPOINTMENT of Bernard M. Baruch to study contract termination was first interpreted as evidence that he would be named czar of demobilization. Developments of the past fortnight however indicate that Baruch will confine himself to determining the Administration's policy.

Baruch is now expected to handle the problems of postwar reconversion in much the same way as he supervised the West Coast manpower situation and the rubber crisis. He and his assistant, John Hancock, will study all previous recommendations and evidence collected by Congress and the executive agencies of the government.

Having formulated a general policy, Baruch is expected to testify before Congress as the Administration's spokesman, since it is generally thought termination policies will be written into law, not left for each procurement agency to determine.

Baruch has told associates that he will study each problem of postwar reconversion in turn, beginning with the most urgent, contract termination. It is labeled "most urgent" because some contracts have already been cancelled and the number will continue to grow as changing war emphasis brings changed demands for equipment. Some cancelled contracts will be replaced by contracts for other war equipment, but a partial percentage will probably be replaced by production of civilian goods. All the postwar problems of reconversion of plants and facilities to peacetime production will therefore appear on a small scale in the near future.

More than an equitable policy for termination of contracts is demanded of the government as it prepares to cancel production of war items, according to

Baruch. He prefers to call his new task a study of "industrial reconversion." The removal of machinery, raw material and semi-finished goods, to enable the rapid readjustment of plants, is equally important.

The lack of discussion of this problem of clearing plants of war surpluses has troubled WPB's Executive Vice Chairman C. E. Wilson. In testimony before the Senate's Truman Committee recently, he said, "It's one thing to say you'll pay 'x' per cent at termination, but you must also make a definite determination of what the manufacturer is going to do with surpluses." He asked that the Army and Navy select the plants they will need for arsenals and warehouses to store the quantity of raw materials and semi-finished goods on hand and that the manufacturers study their needs.

From informed sources American Aviation has learned some of the basic convictions Baruch holds on contract termination and other phases of demobilization and reconversion. He is known to favor prompt settlement of terminated contracts—settlements which are to be final unless fraud is detected. The inventory of raw materials, semi-fabricated parts and machines turned back to the Government must be equally prompt and complete. He believes that manufacturers may have difficulties arranging for loans to finance reconversion before the final settlement of contracts. If this should happen, RFC or other government agencies should be empowered to lend financial assistance.

Baruch believes the prompt settlement of war contracts and the rapid reconversion to peacetime production is essential to prevent an extended period of postwar unemployment and the inflationary effects of excess consumer buying.

## Aviation Writers Dine With Manufacturers



Members of the West Coast Aviation Writers Association recently held a joint luncheon with directors of the Aircraft War Production Council, West Coast, to discuss mutual problems. Pictured, left to right, are J. L. Atwood, executive vice president, North American; Raymond Kay, 'Iron Age'; Cyril Chappellet, vice president of Lockheed; Peggy Guetter, 'American Aviation'; Courtlandt Gross, general manager of Lockheed; Leonard K. Schwartz, assistant to the president of Lockheed; Lawrence Black, 'Western Flying'; Maxwell Thayer, 'Wall Street Journal'; La Motte Cohu, chairman of the board, Northrop Aircraft; Donald Douglas, president of Douglas Aircraft; and Reginald Burrows, 'Western Flying.'

## Ferry Funny!

William Wagner, public relations director of Ryan Aeronautical Co., recently drove his car aboard a San Diego harbor ferry. When the boat docked, he absent-mindedly walked down the gangplank and took a street car home. It was not until the next morning that he realized he had left his car on the ferry, and he hastened to the dock to make inquiries of one of the crew members there. The worker gave him a long look, pointed to his car parked safely nearby, then called in disgust to the ferry-boat captain:

"Here's your 'suicide,' Cap."

ing power which lacks a market of consumer goods.

It is generally accepted among Washington officials today that the war with Germany will be over before the war with Japan. Not only will this mean a decrease in the demands of the Armed Services for war materiel, but it will permit a more gradual period of reconversion. Unused plant facilities and excess raw materials could be converted to the manufacture of essential civilian goods in larger and larger quantities, it is said.

Although it is too early for aircraft manufacturers to divert manpower to postwar aviation designs, Wilson told the Truman Committee, he prophesied that soon the government would be able to give such planning at least a "partial green light." "I think the time is not very far off," he said, "when the industry and commerce can be encouraged to make very definite plans with respect to the quantities and types of consumer goods which can be produced for civilian use."

Although the whole structure of the aircraft industry will be greatly reduced after the war, Wilson believes that with proper termination policies, the industry will be in a position to finance further operations. He outlined a program which would enable aircraft manufacturers and other war industries to convert to post war production as rapidly as possible after termination.

Steps can be taken now, he said, to obtain orders and markets for the reconversion period. Individual manufacturers can ask their wholesalers and retailers to place tentative orders which will indicate the volume of manufacturing for which a quick market can be expected. He believes much of the industry-commerce planning can be done without affecting war production, perhaps under the auspices of WPB's industry divisions "with the Office of Civilian Requirements as the spark plug."

The problem of which government agency or agencies shall be responsible for demobilization and reconversion is another point Baruch is expected to study. Authoritative sources describe a recent meeting at the White House at which OWM Director Byrnes asked Wilson to continue directing war production and promised WPB Chairman Nelson the directorship of reconversion of war plants. If contract termination policies are in the final analysis to be determined by Congress, the job of administering the program laid down by Congress will undoubtedly be assigned by Congress as well.



— and  
the menace  
of SAND

In our African Cam-  
paign the R.A.F and  
mechanised units of  
the Army have had  
this extra enemy to  
fight and conquer —  
SAND

## VOKES FILTERS

we are proud to say,  
have helped to beat  
the enemy SAND.  
Specialty types of Vokes  
Air, Oil and Fuel  
Oil Filters were  
demanded, pro-  
duced and did  
their job. In  
countries where  
sand is a menace  
to all machinery  
Vokes Filters  
prove invaluable  
in all industries.

## Appalling Conditions! VOKES tackled this problem . . .

On the right is shown the actual filter element of a Vokes Air Filter for Aircraft. It traps dust particles down to 0.00004 in. dia., upholding the Vokes standard for their filters, 99.9% filtration efficiency.

# VOKES

VOKES LIMITED • FILTRATION EXPERTS

THE ARTHUR S. LEITCH CO. LTD.,  
1123 BAY STREET, TORONTO, CANADA  
E. CANTIN, 101 PARK AVE., NEW YORK

## Our desert troops know what a frost is

\* Your sweetheart, in a burst  
of romantic fervour, assures  
that he (or she) will love you  
"till the sands of the desert  
grow cold" you'd better check  
up on that.

No doubt the declaration will  
be made in all sincerity, based  
on the popular belief that the  
desert sands are eternally hot.

But the truth is they do grow  
cold, very often. Devilishly  
cold, in fact, at this time of the  
year.

Ask any soldier just returned  
from the Libyan Desert, and  
he'll tell you how cold and  
heavy night dews make there are  
sand dunes that often have a rime  
sharp frost that morning sun to  
disperses the weak sun of the  
in the cold, rainy season—  
I have seen balloons bring  
like a spreading of tapices  
Even a scattering of snow  
("asby snow")

No, the desert's not always a  
land of searing sun and  
waterless waste. With the fury  
— which fall with the torrential (rainy)  
and leaving pools in the dunes  
hollows. Bitterly the sandy plains  
sweep across the cold winds.  
They bite at night and stand-to arms  
a marrow-chilling affair. The sun  
is considerably weaker at this  
time of the year, only the southerly  
wind, the loose sand into great swirls  
any appreciable warmth  
After the rains patches enjoy a  
brief period of beauty.

By  
ARCHER  
BROOKS

Flowers night for approximately fifty  
spring up days—khansin is Arabic for  
and bloom fifty. The sand stings and makes  
in the most face and hands like a whip,  
unaccustomed fills mouth and nostrils.  
places—poppies—causing temporary blindness  
scattered stock falls out in small stone-hard  
soil. It closes gun breech, gets  
into the gears of vehicles.

No matter what precautions  
are taken to shield it, food  
becomes impregnated with it.  
until its weight drags man unable  
to move. A wounded man buried

in the little great hills of sand, and  
held together by friction of the sand  
by little great hills of sand, and  
carried away elsewhere.

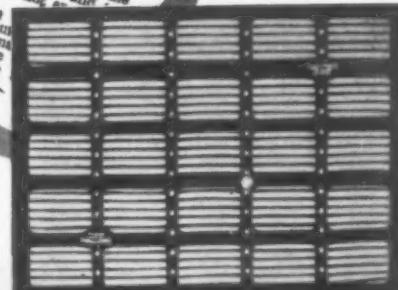
Sometimes a ledge of sand,  
held together by friction of the sand  
will stay projected for  
several feet over a precipice, a  
dangerous trap for the unwary

Gradually, the long narrow  
traverses of sand, being blown  
out. Follow months of blinding  
sunshine with seldom a wisp of  
breeze to temper it, when the  
desert rocks are hot as

fry eggs.

Then sunrise  
poems of a purple morn  
moon floods the sea with an eerie

Archer Brooks'  
intensely interest-  
ing article  
reprinted by  
courtesy of the  
"Daily Mirror."



# Putnam, Palmer, Justice Arnold Broadcast Views on Lea Bill

**C**LASHING VIEWS of the railroad and airline interests on the pending Lea Bill became the center of attention in a discussion of the postwar regulation of domestic aviation on "America's Town Meeting of the Air" Nov. 18. Justice Thurman Arnold, Howard S. Palmer, president of the New York, New Haven and Hartford Railroad, and Carleton Putnam, president of Chicago and Southern Air Lines, took part.

While for the most part the surface carrier vs. airline controversy was rehashed, some new ideas were brought out, and allegations by Palmer brought a strong rebuttal the next day in the form of a statement by Col. Edgar S. Gorrell, president of Air Transport Association of America.

Palmer charged that the Lea Bill "obviously is designed to provide public funds for expansion of the air industry after the war with subsidies loaded on the taxpayers—leaving the railroads and highways to shift for themselves. They will get the cream while we get the skim milk." He maintained his railroad, which has served Southern New England for 100 years, should be entitled to the opportunity to participate in the air-future of the region since it has well established freight and passenger solicitation organizations, excellent warehouses and a large fleet of motor trucks for pickup and delivery.

Putnam decried the fact that four airlines currently do 80% of the business and urged the building up of smaller systems proposed by railroad organizations wherever it is soundly economic to do so—and especially that air transport be kept in the hands of air-minded men. He charged that integrated systems proposed by railroad organizations would be like putting the training of both the Army and Navy football teams in the hands of the Navy coach. With their overwhelming relative capitalization, railroads would put the airlines in their vest pocket if given the chance, he said.

## Arnold Reiterates Views

Justice Arnold, declaring that the U. S. is on the verge of a revolution in transportation, presented his well known views in opposition to monopolies or entrance of railroads into the air field. He disagreed with Putnam, however, on other matters of regulation, asserting that all airlines with sufficient capital should be given the routes they desire to supply ample competition. He also challenged Putnam's views that sale of surplus aircraft should be rigidly controlled after the war by declaring: "If we permit Tom, Dick and Harry to use the old planes, it will force the airplane companies to improve their models to stay in business."

Palmer's insistence that the Lea Bill represented legislation and appropriations for the benefit of a few to the detriment of others, brought the following statement from Col. Gorrell:

"Mr. Palmer continues the spreading of misleading and mistaken information about the Lea Civil Aviation Bill.

"He charged that the Lea Bill provides for huge subsidies for training, airports and other facilities for commercial air transportation.

"This is not so. The training provision, for example, in the Lea Bill is simply the continuation of the present temporary Civilian Pilot Training Act which provides for teaching our youngsters to fly safely and which has done so much to assist small training schools and other small miscellaneous operators to keep private and miscellaneous aviation alive. The provisions of the Bill relating to airport development programs do not provide for further expenditures. Such matters are left entirely to Congressional appropriations from time to time.

"These and other provisions of the Lea Bill indeed recognize for the first time in Federal law the need for the encouragement and development of miscellaneous flying, rather than being confined to commercial air transportation.

## Does Not Affect Railroads

"Mr. Palmer also stated that the Lea Bill provides for keeping the railroads out of air transportation. The fact is the Lea Bill contains no provisions whatsoever on this subject. It does not affect or modify present law under which railroads may be authorized to engage in air transportation where the public interest would be promoted by enabling the railroads to use aircraft supplementary to railroad operations and where there would be no restraint of competition. What Mr. Palmer advocated was adoption of the Reece Bill under which existing safeguards with respect to the domination of air transportation by surface carriers would be broken down.

"This Reece Bill, so vigorously supported by the railroads is being advanced without ever having had a word of public hearing on the question of railroad control. In an effort apparently to evade a public hearing and public scrutiny of the merits of their case, the railroads are attempting to tack on to the Lea Bill a rider which would break down our country's historic transportation policy designed to keep different modes of transportation in their proper places and on a competitive basis.

"This transportation policy is based upon years of experience and has been frequently affirmed and reaffirmed by Congress. It is designed to prevent an older form of transportation from dominating and stifling the growth of an infant transportation industry.

## CAA Develops New Light To Aid 'Lost' Night Fliers

That helpless feeling that aviators sometimes experience when trying to distinguish the boundary lights of an airfield from a maze of city illumination may be gone forever if present CAA experimentation with a new "Outer-Marker" beacon at Indianapolis measures up to expectations.

The beacon, one of four to be located at each of the four major directions two miles from the airport, is a 5,000,000 candle power incandescent lamp which throws a pencil shaft several thousand feet into the air and then through an os-

## Coastal Flying Rules May Be Modified

Maj. Gen. Barney M. Giles, Chief of the Air Staff, disclosed last week that he has been "informally advised" that "some relaxation of present restrictions on flying by civilians in coastal defense areas" will probably be recommended in the near future.

The disclosure was made in a reply to Rep. Jennings Randolph (D., W. Va.) who had written Gen. H. H. Arnold, commanding general of the Army Air Forces, and Charles I. Stanton, Administrator of Civil Aeronautics suggesting the reopening of "at least a partial number (of airports) for limited use, which might properly include Civil Air Patrol activities, flight instruction in connection with the war effort, and housing and servicing of aircraft."

Randolph said he believed that Giles' announcement indicated "the opening wedge on necessary revision of orders banning civilian flying and use of airports and affecting between 80,000 and 100,000 individual flyers in the Eastern area.

Stanton in reply agreed with Randolph that a relaxation of restrictions on civilian flying activities is now "in order" and stated that the Administration had made recommendations along this line.

Giles letter to Randolph read:

"In the temporary absence of Gen. Arnold I am replying to your letter of November 10 with regard to the desirability of relaxing restriction on flying which are now imposed by General Order No. 34 of the Eastern Defense Command.

"The Joint Staff Planners are now engaged in a study of existing directives relative to the control of flying in coastal defense commands with the objective of recommending such modifications and changes as seem desirable. I do not know, of course, what their recommendations will be or whether they will relate specifically to the matters brought out in your letter but I am informally advised that some relaxation of present restrictions on flying will probably be recommended."

cillating arrangement swings the shaft of light downward toward the airport, repeating the operation at three second intervals. When all four beacons are installed the shafts of light will form a vortex at the airport on the downward swing.

The new beacon was developed under the direction of H. J. C. Pearson, senior lighting engineer and Fred H. Griebe, chief of the airport development section.

Pearson said frequently pilots become "lost" over brilliantly illuminated cities particularly when night weather conditions interfere with visibility. The new arrangement of these beacons and their operational procedure is designed to give the pilot a target to shoot at, Pearson said. Distinctive beacon lights have been a long-felt need, it was stated.

CAA has notified the Air Line Pilots Association that one of these markers is now in operation at the Indianapolis Municipal Airport and the pilots are being asked to submit their reactions and comment.

Rules  
modified

Chief of the  
that he has  
at "some re-  
s on flying"  
e areas "will  
in the new

in a reply to  
(W. Va.) who  
1, command-  
Forces, and  
ator of Civil  
(reopening of  
of airports)  
properly in-  
vities, flight  
th the war  
icing of air-

that Giles  
the opening  
e of orders  
e of airports  
and 100,000  
area.

h Randolph  
s on civilian  
order" and  
had made  
ine.

ad:  
ce of Gen.  
ur letter of  
the desir-  
on flying  
General Order  
Command.  
re now en-  
g directive  
ng in coastal  
objective of  
ations and  
o not know,  
recommendations  
relate spe-  
ght out in  
ally advised  
ent restric-  
be recom-

he shaft of  
airport, re-  
second in-  
ns are in-  
ill form a  
downward

opped under  
son, senior  
H. Grieme,  
ent section.  
ots become  
posed cities  
her condi-

The new  
and their  
ed to give  
earson said.  
e been a

Line Pilots  
makers is  
apolis Mu-  
are being  
and com-



## The Northrop group is building trouble for the Axis

**I**N THE FIERCE STRUGGLE of total war, the U. S. air industry well knows how hard will be the road to final victory. And it has squared off for the most colossal production tasks yet attempted.

To the job of creating still greater air might, America's aircraft industry brings priceless years of "know how". . . a vast storehouse of experience in the designing and building of planes.

The Northrop group is one example of this. Now all-out on war tasks, it is the same group that pioneered many significant "firsts" in aviation history . . . such as the *first multicellular monocoque wing structure*, which did away with the exposed struts and wires. This development helped make possible the swift,

clean-lined monoplanes of today.

From the Northrop group also came the *first U. S. all-metal monocoque fuselage*, which lessened skin friction, made fuselages lighter, stronger, and more spacious inside. *Wing fillets*, which eliminated "interference drag", were a Northrop development. And *split flaps*,

which help fast warplanes to land at safer, slower speeds.

Today, and until total victory, all the "know how" of the Northrop group is concentrated on designing and building deadly and yet more deadly planes of war. Of this fact you may be certain: Other Northrop "firsts" are coming.



**NORTHROP** Aircraft, Inc.

NORTHROP FIELD, HAWTHORNE, CALIFORNIA, U. S. A.  
MEMBER AIRCRAFT WAR PRODUCTION COUNCIL, INC.

# To Vote on Lea Bill

(Continued from page 16)

tance of their substitute proposal for the Lea bill and are resorting to an alternative strategy.

A situation feared in aviation circles is that, should "stalling" tactics on the Lea bill prove successful and should the probability materialize that the next Congress would have a Republican Majority, the chances for obtaining favorable House action on the Reece plan for transportation "integration" would increase many fold. It is pointed out that with a Republican Congress, House Interstate and Foreign Commerce Committee would probably be dominated by the men sponsoring this plan: Reps. Charles Wolverton (R., N. J.), Pehr Holmes (R., Mass.), and B. Carroll Reece (R., Tenn.) are the Committee's highest ranking Republicans.

The sponsors of the Reece bill will bring a proposal with many ramifications before the House. They will not wage their fight by arguing that railroads should be allowed to enter air transportation—a fact which is the core of their proposal, but will stage a number of "sideshow" arguments.

Three of these arguments, inevitably will be:

(1) Contention that there is a present monopoly in air transportation which should be uprooted.

(2) Advocacy that States be allowed to retain their "Constitutional" jurisdiction over air commerce.

(3) The Lea bill fosters uneconomical expenditures of public funds on aviation.

These arguments have already been put forth by the Reece group and are expected to be offered again on the floor.

*Air Transport Monopoly.* Reece purported to prove during the last fortnight than an air transportation monopoly exists within the industry and that the present airline industry, furthermore, has designs to monopolize all future air transportation business.

To prove his case he published last fiscal year's airline operating revenues. His figures did show that about 76% of the total revenue of 18 domestic lines went to the nation's four largest lines—American Airlines, United Air Lines, Eastern Air Lines, and Transcontinental and Western Air, Inc. He argued that this concentration of business was evidence of a "monopoly" within the industry. He then contended that the action of executives of the nation's small airlines, who have publicly refused to fall in line with his proposal to end the alleged "monopoly" within the industry by opening the field to surface carriers, demonstrated that the small lines, together with the large lines, want to keep the air transportation field to themselves and outlaw all new comers.

Reece evaded the real issue—whether and how monopolistic concentrations would be remedied by allowing surface carriers to invade the air transportation field—in his lengthy dissertation published in the *Congressional Record*.

Rep. Carl Hinshaw (R., Calif.), opposed to the Reece measure, has pointed out that the railroads could buy out the entire air transport industry for what would be a "drop in their bucket" to ward off competition. Capitalization of the airlines is estimated at about \$57,-

000,000; that of the railroads at about \$22,000,000,000.

"Airlines of the U. S. will primarily need financing after this war . . . upon their success in this, is largely dependent their ability to supply the nation with an expanded air transport system," Chairman Clarence F. Lea (D., Calif.), of Interstate and Foreign Commerce suggested to *American Aviation*. The airlines must tackle an indefinite financial future.

The railroads, on the other hand, as was indicated in the Minority Reece report, have adequate and ready capital to give them a decisive head-start in post-war domestic air transport, if the gates are opened to them.

Another repercussion of opening air transport to already-established surface carriers, pointed out by a prominent aviation spokesman last week, is that this will bar new comers from the air transport field. He maintained that as the demand for air transportation grows, the present number of airline companies will be increased, some of the new business will go to new operators. But if air transportation is opened to "all comers" as advocated in the Reece bill, he argued, this new business will go to established surface carriers.

*State's Rights.* Arguments on State versus Federal control of air commerce took a new slant in Washington aviation circles last week as increasing evidence was brought to light that the prime motivators of "State's rights" arguments against the Lea bill are the railroads.

This possibility has loomed to the foreground in discussions on the "State's rights" question.

Suspicions along this line arose when the nine Congressmen who signed the Reece Minority report advocated retention of extensive State control over air commerce. These nine men saw fit, only nine months ago, to recommend to the House legislation setting forth exactly the opposite policy on State control. The old Lea bill, which they approved in February, contemplated complete Federal control over commercial aviation, specifically stated that intrastate air commerce was to come under the jurisdiction of the Federal government. (Only committee-

## 'Pink Pill'

The Royal Canadian Navy has developed a "pink pill" cure and preventive for airsickness and seasickness, said to be effective for 75% of persons normally susceptible. The pills, in capsule form, are in mass production and will soon be used in the services, but are not expected to be available to civilians until after the war. The Navy announcement said thousands of experiments had disclosed the basic cause of seasickness and airsickness was a "maladjustment of the equilibrium apparatus in the inner ear, caused by its inability to adjust itself to continued rapid changes in position." The formula for the pink capsules is a war secret.

men who voted against reporting out the old Lea bill was Rep. Carl Hinshaw. Yet, when the new Lea bill, modifying considerably the extent of Federal control over commercial aviation so as to give the States all jurisdiction possible under a policy for uniform national regulation, was proposed, these nine men revolted against its "destruction of State's rights."

The fear in aviation quarters is that their complete change of disposition was effected primarily on behalf of railroad interests—or interests which parallel railroad interests—and only incidentally on behalf of States' interests.

Railroads have operated through States to block their competitors in the past—a fact published in Senate Report No. 28 (77th Cong.). Episodes from railroad history of the last decade dealing with the maneuvers of the rails to stave off trucking competition are recorded in this report.

Some of the activities of railroad-backed organizations related in the report included:

Promotion of stringent safety regulations for trucks in State legislatures;

Establishment of "espionage" organizations to assure rigid enforcement of safety regulations;

Efforts to get heavy state taxes imposed on the trucking industry;

Attempts to get legislation limiting the length of trucks, diminishing their load capacity and reducing their profits on hauls, through state legislatures.

The Reece bill, it is pointed out by aviation men, opens the possibility for a repetition of the trucking episode with the air transport industry.

*Economy in Public Expenditures.* Railroad men are now openly urging defeat of the Lea bill by an appeal to economy in the expenditure of public funds.

Howard S. Palmer, president of the New York, New Haven and Hartford Railroad charged the Lea bill with fostering unnecessary expenditures of taxpayers' monies on development for the aviation industry.

Signers of the Reece bill have advanced the same argument in the House.

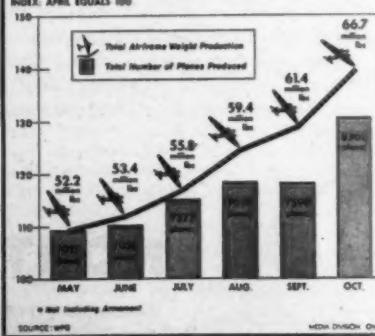
Advocates of the Lea bill point out, however, that it does no more than write into permanent law, aviation programs which have already been approved by the Congress. These programs include civilian pilot training, aircraft mechanic training, airport development.

## MILITARY PLANE PRODUCTION

SHOWING MONTHLY OUTPUT & INCREASE in airframe weight and number of planes

MAY-OCTOBER 1943

INDEX: APRIL EQUALS 100



... has  
re and  
and sea-  
ve for  
ceptible.  
are in  
soon be  
are not  
civilians  
any an-  
of ex-  
the basic  
thickness  
equili-  
er ear,  
just it-  
anges in  
the pink

ng out the  
Hinshaw),  
modifying  
ederal con-  
so as is  
n possible  
onal regu-  
e men re-  
of State's

ers is that  
sition was  
of railroad  
rallel rail-  
entally on

ugh States  
the past—a  
ort No. 25  
a railroad  
aling with  
stave of  
led in this

ad-backed  
report in-

ly regula-  
tories;  
organiza-  
ent of all

es imposed

miting the  
their load  
profits on

ed out by  
ility for a  
esode with

ures. Rail-

ing defeat

o economy

unds.

ment of the  
tford Rail-

in fostering

taxpayers'

the aviation

the advanced

use.

point out

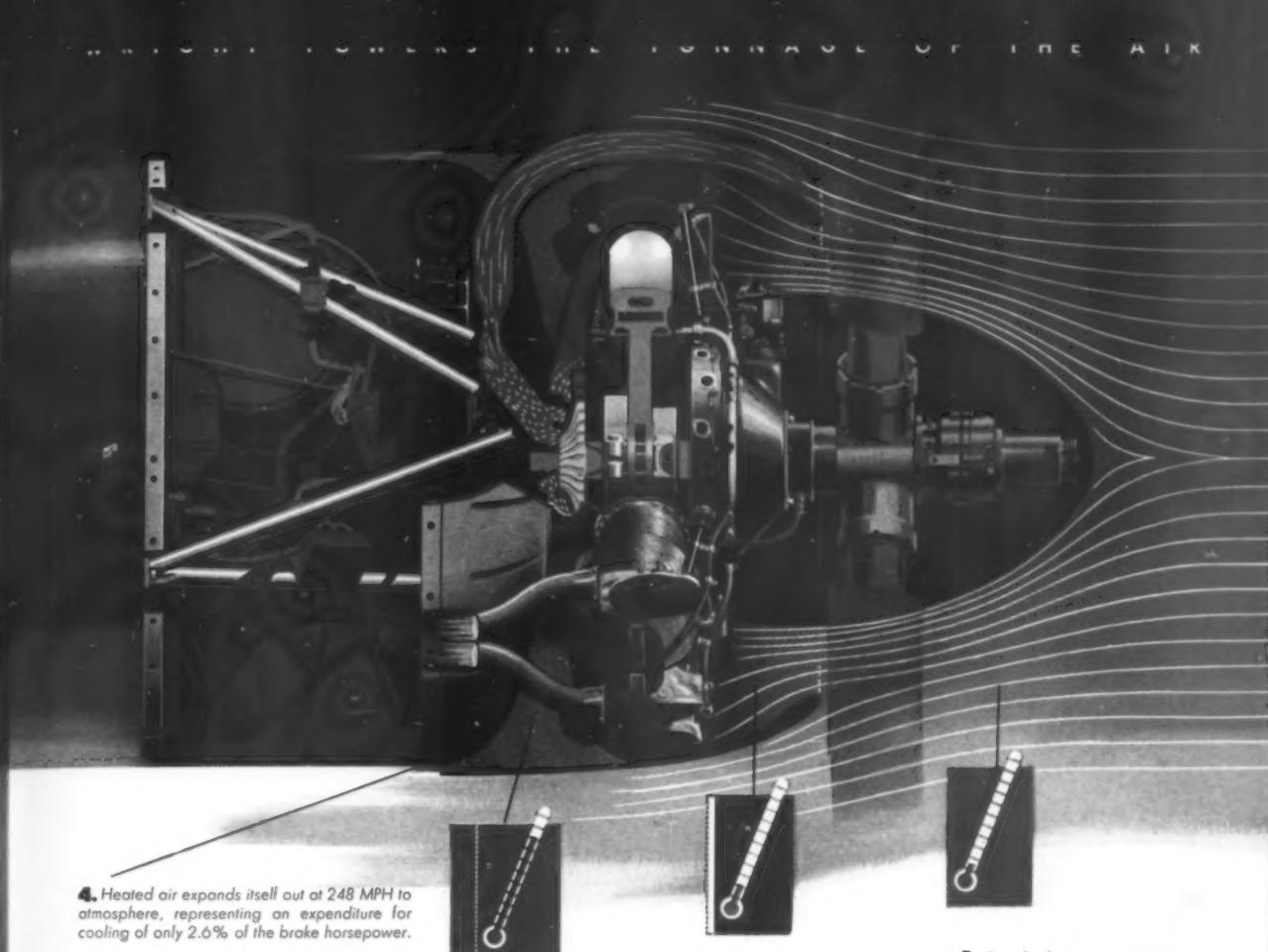
than write

programs

ved by the

clude civil-

anic train-



4. Heated air expands itself out at 248 MPH to atmosphere, representing an expenditure for cooling of only 2.6% of the brake horsepower.

3. In enclosure behind engine, pressure drops to 7.23 lbs./sq.in., even though temperature is raised to 150° F. One pound now occupies 31.0 cu. ft.

2. In rated power flight, plane picks up air at 300 MPH. Impact compresses air to 7.49 lbs./sq.in., raises temperature 16°. One pound of air now compressed to occupy 22.8 cu. ft.

1. Standard air temperature at altitude of 20,000 ft. is -12° F.; standard air pressure is 6.75 lbs./sq.in. One pound of air occupies a volume of 24.5 cu. ft.

## A Direct Approach to Cooling

All aircraft engines are cooled by air, whether the air passes through a radiator containing intermediate coolant, or passes directly across finned cylinders. Wright Aeronautical has produced both types of engines, and in developing the history-making Cyclone series has advanced the science of direct air cooling to the point where Cyclones produce more power per unit of space and weight than any other powerplant of any type.

Years ago, air cooled engines were mounted in the open, without cowling. While this provided effective cooling under most operating conditions, the resultant drag exacted a high toll from the power available for thrust. Present-day engine powers and aircraft speeds have depended in large measure on two simu-

taneous developments — increased cylinder finning and scientific cowling.

With each increase in the number and depth of cylinder cooling fins, engine powers have gone up. In ten years, the rating of the Cyclone 9 has been raised 80% without increase in displacement. The latest development in cylinder design, incorporating a forged head with machined fins, permits as much as 15% increase in Cyclone power without adding to the size or weight. Better heat conductivity of the forged metal, plus extra-deep fins, make Cyclones with these new cylinders the easiest of all engines to cool.

Engine cowling, meanwhile, has been refined to the point where it serves as a pump to supply cooling air to the engine and control its return to the slip-stream.

In cooling an engine, still air is picked up and swept along momentarily at plane speed, then returned to surrounding air. Unless it is ejected at approximately the speed with which the plane picked it up, the forward velocity which it retains represents a serious loss of energy. The reduced cooling effort required by the Cyclone engine permits reduction of this cooling drag to negligible values in high speed flight, as shown in the illustration above.

Direct air cooling, which requires a minimum of installation weight and few moving parts, is a feature which has long established the Cyclone as an economical source of power. The marked pay load advantage and ease of maintenance means additional revenue dollars for the operator.



Wright Cyclones pay their way.

Cyclones and Whirlwinds · Light · Compact · Powerful

**WRIGHT** Aircraft Engines



**Boots Will Eliminate  
This Chore After Victory**

Often Bill's bike shakes and shimmies so badly that he can't ride it safely. Normal vibration loosens wheelnuts—probably every other nut too—so Dad has to get a wrench and tighten up the whole bike. But after the war, Bill will ride safer and Dad will be spared many a tightening-up session, because well-made bikes will wear Boots Self-Locking Nuts. Even severe vibration can't shake Boots loose. For safety's sake and to eliminate repairs caused by vibration-loosed connections, you will insist on products protected with Boots Self-Locking Nuts.

**They Fly With Their Boots On—Farther**

Boots All-Metal Self-Locking Nuts are lighter than any other similar fastenings. On a single Liberator or Flying Fortress they save up to 80 pounds. That's enough to enable one of these 4-engine giants to take along extra gallons of gasoline—or 200 additional rounds of .50 caliber machine gun ammunition. A little extra range or a few more bullets may be just what's needed to get a bomber home from a 2,000 mile raid over enemy territory.

In case you're wondering whether nuts as light as Boots can "take it," there is plenty of evidence to prove just how tough they really are. They withstand the corrosive action of oil, salt water and chemicals. No amount of plane vibration can loosen their grip. Boots Nuts can be used over and over again—literally "outlast the plane." In fact, today these nuts are worn by every type of U.S. aircraft. Yes, Boots Nuts meet the exacting specifications of all government aviation agencies.

# BOOTS

Self-Locking Nuts For Application In All Industries



BOOTS AIRCRAFT NUT CORPORATION ★ GENERAL OFFICES, NEW CANAAN, CONNECTICUT

# Railroad Man Defends REA's Air Division; Hits Frederick

A STRONG DEFENSE of the Railway Express Agency's air express division and an assertion that the Agency and the airlines can work together effectively "if left alone" were offered to the Society of Automotive Engineers at its recent air cargo meeting by Fred Carpi, assistant general traffic manager of the Pennsylvania Railroad.

Carpi spoke in rebuttal to Dr. John Frederick, professor of transportation at the University of Texas, who had urged the airlines to "break away" from the Express Agency (AMERICAN AVIATION, Nov. 15) Carpi maintained that the present arrangement is more advantageous to the airlines than to the Express Agency and that the "modest" price paid by the airlines makes the earnings of the Agency from air express traffic not overly attractive.

"Not much consideration appears to have been given to the fact that the air industry was extremely fortunate in its formative days in finding an organization that fitted perfectly with its scheme for an all-inclusive service without the headaches and huge investment that go with terminal operations," he said. "I am quite sure that the airlines could neither obtain the required service nor the favorable terms now enjoyed by any other arrangement."

Availability of rail express service in

## Packaging Will Keep Pace With Advance of Air Cargo, Says Ohio Paper Engineer

Tailor-made packaging has been assured for postwar air cargo operations through development of new-type corrugated boards, coating materials, and adhesives, J. H. Macleod, of Hinde and Dauch Paper Co., Sandusky, O., told the SAE Air Cargo meeting in Chicago.

Flexible materials have been devised for simultaneous use in wrapping and packing. Overwrapping materials which control temperature and humidity, prevent corrosion, mold formation, and insect infestation are available, he reported.

Macleod predicted that costly warehousing will be eliminated and that air delivery of fresh fruits and vegetables the year 'round will be made possible by these new packing devices.

He praised the air lines for having drawn up "simple and easy-to-understand" cargo compartment charts and shipment size charts, but warned that unless air shipping costs are lowered from their present level to a point more competitive with surface shipment cost "it is clearly evident that air transportation will lag in volume until these costs are truly more competitive."

Macleod said he visualizes in the future cargo picture the arrival of "fruits from distant tropical lands, hand-made products from central Asia; scientific phenomena, in their original state, for examination and study in our schools."

"Packaging possibilities have no ceiling," he declared.

the pinches has undoubtedly helped to stimulate air traffic, Carpi maintained.

He defended the Railway Express Agency against charges that it is railroad-minded and is working against the best interests of the air industry. "We on the other side are quite often inclined to think it is more solicitous of the air than the rail business," he added. "It has been falsely accused in many quarters of dictating the rate policy of the air lines, and of other evils, which have done much to create a wrong perspective."

A major advantage of the present arrangement, Carpi said, is that when circumstances make it impossible to dispatch traffic by air it is sent by rail express. Since air hauls approximate 1,000 miles, few truck companies could duplicate the substituted service, even between a limited number of points.

### Pick-up Service 'Expendable'

Warning the airlines that services now received cannot be dismissed lightly, he pointed out that practically all of the volume of merchandise handled by surface carriers is accorded pick-up and delivery service or its equivalent. "The hard and expensive part of the business is in the operation involving pick-up, delivery, warehousing, waybilling, accounting, claims, collection of charges, expediting, C.O.D., and other services. These details cut a deep swath in the revenue dollar and it would be no exaggeration to say that the bare line haul expense is in many cases less than 50% of the total."

The railroader's viewpoint was that air express can look mostly for its business among "emergency repair parts and luxuries on which the factor of time will completely overshadow cost."

"On the bulk of the traffic a few hours on the short hauls and a day on the long hauls is not by any means as important as consistency or dependability. On a haul involving three or four hundred miles the most the public expects is next morning delivery. As a general proposition it would be of no particular advantage to make delivery late on the same day. The average business establishment desires to have its merchandise available for display early in the morning. Furthermore, most manufacturers do not have the freight available for transportation until late in the afternoon so that it would be physically impossible to have it available in the business hours of the same day. For some time to come, the service on the vast majority of the tonnage will be measured by the working day."

Comparing the territorial coverage of airlines with surface carriers, Carpi said only 240 of the 3,646 towns with a population of 2,500 or more persons have the benefit of scheduled airline service. The service to towns under 2,500 is negligible. "There are probably 90,000,000 people at such a distance from present air terminals as to require line haul surface transportation to reach them."

## Douglas Designer Sees A 'Big Field' in High Value-Low Weight Cargo

The "big field" for air cargo lies in transportation of shipments which are perishable, high in value, and low in weight, in the opinion of Carlos Wood, chief of Douglas Aircraft Company's Preliminary Design Section.

In an address at the SAE Air Cargo meeting in Chicago, Wood hailed the "return to sanity" in discussions of transportation of cargo by air.

"Even the most enthusiastic advocates of air cargo no longer believe that all surface transport agencies are useless and outmoded," he declared. "And the most pessimistic observers are now inclining to the belief that some cargo will probably travel by air in the postwar period."

He pointed out that the structural design of floors, tiedowns, etc., have been shown to be basically dependent only on the cargo load that the airplane may carry, and on the cargo volume available. He also observed that economic considerations show that the actual operations of the cargo airplane will determine the relative importance of speed of loading and the weights involved. He stressed the fact that short range operations demand speed of loading, but long range operations demand minimum weight penalties.

Economic statistics indicate an enormous increase in potential air cargo as rates are reduced, Wood revealed. In his opinion the amount of air cargo actually developed depends on the advantages of air transport over other transport in speed and convenience.

"If air cargo rates can be reduced to reasonable values, this business not only can be big business, but can profoundly affect the prosperity of our country and the rest of the world," he declared.

## Burden Sees 10 to 20-Cent Cargo Rate Per Ton-Mile In 'Early Postwar Years'

The great objective of air cargo is not to be measured in terms of war tonnage at pre-war rates. Rather its greatest market will be found to lie in traffic born of future developments in the nation's economy, many of which are now underway, said William A. M. Burden, special aviation assistant to the Secretary of Commerce, in a speech before the SAE cargo meeting in Chicago.

"I think we can hope to achieve a rate to the consumer of 10 to 20 cents per air ton-mile in the not too distant future—at least we ought to set that as a primary objective for the early postwar years," he declared.

Burden emphasized the necessity for experiment in the development of air cargo potential. He said differences of opinion as to the future of air cargo transport would not be resolved until the trial and error period had run its course. He advocated that the air transport industry, as soon as possible, should inaugurate the necessary experimental routes which would provide the experience on which a sound air cargo system could be developed.

# Ryan Discusses Postwar

(Continued from page 20)

get there faster than competitors, then Americans will have foreign customers by the millions. That's why a first-rate world-wide air transport system will be absolutely vital to America's prosperity after the war.

America's air transport is, at present, the best in the world—thanks to the world-wide network being operated by the Army's Air Transport Command and the Naval Air Transport Service. Few people realize what quantities of men and material are being moved across the oceans and continents by our war air transportation system. No other country can compete with it, just now. Even England is far behind us—the Empire plane-builders have been concentrating on bombers and fighters, leaving the cargo craft to us by mutual agreement.

The success of our great war air transport is due chiefly to two factors. One factor is the invaluable experience of our domestic and foreign commercial airlines. Their personnel are now the nucleus of the Army and Navy air transport organizations. The other factor is the experience of the American airplane manufacturers. They knew how to produce the world's most efficient transport planes.

Both of these great national assets are the fruit of a government policy of fostering commercial aviation development started some twenty years ago. It was then very limited in its scope. But coupled with the inexhaustible enthusiasm and energy of American airplane manufacturers and operators, it bore glorious fruit. Airplane manufacturers built up a vast lore of experience in transport manufacturing by building for the airlines. The airline system, in turn, was born and grew because the government made its existence possible through airway aids, airports, mail contracts and

other encouragement. This investment proved sound. Benefits have been tremendous to the country as a whole. And the greatest of all dividends was the making of a far-flung world-wide air transport service almost overnight, without which our great war successes could not have been accomplished.

Isn't there a lesson in this—a guide to the future?

Just as our pre-war airlines gradually became self-supporting with the help of the government, so our greater domestic and world-wide airlines can become self-supporting after the war on a tremendously expanded scale. Expansion of our domestic airline system, to give complete coverage of the nation with feeder and local routes supplementing major trunk line service, will require assistance from the government for a few years, and possibly permanent assistance in some respects, such as airport and airway aids. The same will be true of development of a world-wide commercial air transport system.

## Will Be Self-Supporting

With air mail contracts and other government aids (the cost of which can be gradually reduced as traffic volume increases and operating costs come down) such an air transport system will, before long, become self-supporting. This has been conclusively shown by the experience of our prewar airline services.

It's a well-known historical fact that every new system of transportation has brought new prosperity but has needed government help in its early stages. The young railroads could not have laid their rails across the trackless west without the land grants and rights-of-way the government provided for them. The bus and truck lines would have died in infancy without the broad, hard highways taxpayers built. The British merchant

marine could never have attained its world dominance without the financial backing of the British government. Such foresight and courage brought increased prosperity to the citizens of the nation involved.

National prosperity, and a high standard of living for the nation's people, are dependent on a good transportation system—which in turn depends on strong builders who can turn out the carriers which that transportation system requires.

## 'Gilt-Edged Investment'

And what better investment could any nation find than a transportation system which opens up new markets for its goods? Railroads, shipping and trucking all brought prosperity to the nations which nurtured them in their early stages. A web of airlines to carry American goods faster and farther than ever before will be the gilt-edged investment for the American people.

You may be asking, "But what about other phases of aviation? What may be expected of them following the war? How about the use of the smaller aircraft for the private-owner, feeder-lines, and special services?"

That phase of flying, due to accelerated developments, should also enter a tremendously increased scale of activity. Technical progress which is truly wondrous has taken place and is continuing rapidly. It will have far-reaching effects. Developments which otherwise would have taken many more years to accomplish have already become realities.

However, the full benefit of all these will not be immediately available directly following the war. Perfection of new ideas and their adoption to practical use will be a continuing process. The scale on which private-owner aircraft will be used immediately following the war will depend, largely, on three factors:

## Lists Factors

1. The level of individual economic prosperity.

2. The rapidity with which some of the more important technical developments can be adapted to peace-time use. This will depend to some extent on the length of the war.

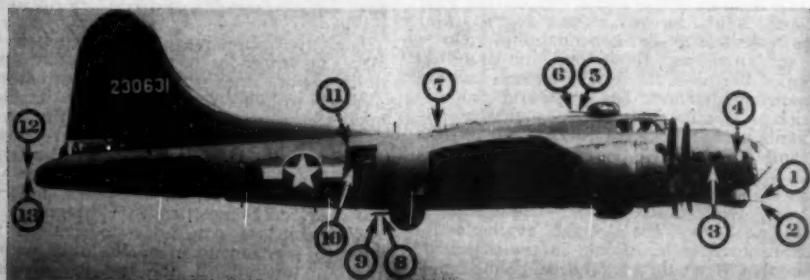
3. Whether or not the government establishes a sound plan of encouraging the private ownership and operation of aircraft.

Many exaggerated pictures have been carelessly painted visualizing the use of aircraft in the immediate postwar period on a scale comparable to the private use of automobiles before the war. Anything approaching this at any near future date appears extremely improbable. A more intelligent estimate would seem to be that use of private-owner aircraft, given the benefit of reasonably prosperous economic conditions and government sponsorship, should be, almost immediately following the war, several times greater than at any time before the war. It should increase steadily from then on.

Note that I used the word "aircraft," which is not limited to the conventional airplane as we now know it. It appears probable that private-owner aircraft will include airplanes similar in general character to the present airplanes as we know them. But they will probably have many improvements in design to make them safer and more adaptable to private-owner requirements. Possibly, too, there

(Turn to page 41)

## Flying Fortress Firepower—Labeled



The firepower of the Boeing B-17G is displayed graphically for the first time. Guns (1) and (2), located in the chin turret, and guns (3) and (4) are used by bombardier and navigator to ward off frontal attacks. Guns (5) and (6) are operated by the first engineer in the power turret, for frontal, lateral, and rear attacks. Gun (7), a top gun located midway in the fuselage, is operated by the first radio operator against targets of opportunity coming in from above. Guns (8) and (9) are used by the second radio operator in the ball turret against underneath attacks. Guns (10) and (11), in the waist positions, are used by the second engineer and first radio operator to ward off lateral attack. Guns (12) and (13) are used by the photographer and tail gunner to fight off attackers coming in from the rear.



Ray Hollis

## FLEETWINGS BUILDS A PLACE IN TOMORROW

Fleetwings, whose products are everywhere contributing to victory, is busy on a full time job. In part, the invincibility of the Flying Fortress; the sting of the Douglas Havoc and the speed of the Vought Corsair are attributable to Fleetwings' airminded production. For Fleetwings is concerned, right now, with the manufacture of tail assemblies, flaps, wings, rudders, hydraulic valves, etc. for these and other

fighting aircraft. The many years of pioneering, experimentation and development have fitted Fleetwings for this work . . . provided, also, a background of leadership in the aviation industry . . . assured Fleetwings of a dominant role in the air story to be written after the war.



Plant No. 1



and its  
financial  
Such  
increased  
on in  
stan-  
people,  
station  
strong  
carriers  
a re-

any  
system  
goods?  
ing all  
which  
es. A  
goods  
e will  
er the  
about  
ay be  
How  
ft for  
and

erated  
a tre-  
activity.  
won-  
inuing  
effects.  
I have  
mplish

these  
directly  
of new  
al use  
scales  
will be  
ur will

conomic  
me of  
velop-  
e-time  
extent

ment  
encour-  
oper-

been  
use of  
period  
te use  
thing  
e date  
more  
e that  
en the  
conomic  
ship,  
lowing  
an at  
ld in  
craft,"  
ntional  
ppears  
ft will  
char-  
know  
many  
them  
ivate-  
there



PAINTED FOR ELECTRONIC LABORATORIES, INC., BY BENTON CLARK

## NOT HERE, Hirohito!

● So sorry, son of heaven, but the answer is "NO! You can't land here!" . . . Not with these gallant little sluggers, the PT boats, on the job. They're tough. They're fast. They never sleep. And whatever the occasion demands, they've got what it takes.

As a concentrated package of poison for the Axis, the PT boats are an outstanding example of the way American engineers, workers and manage-

ment are teaming together to produce the deadliest weapons the world has ever known. And naturally, we're proud that E-L equipment is giving a good account of itself on PT boats.

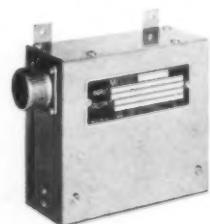
The widespread use of E-L Vibrator Power Supplies as standard equipment—on land, sea and air—for radio, lighting, communications, etc.—wherever electric current must be changed in voltage, frequency or type—is evidence of the efficiency and rugged dependability of E-L products.

**Electronic**  
**LABORATORIES, INC.**  
INDIANAPOLIS

**E-L ELECTRICAL PRODUCTS**—Vibrator Power Supplies for Communications . . . Lighting . . . Electric Motor Operation . . . Electric, Electronic and other Equipment . . . on Land, Sea or in the Air.



**E-L Timer for Operating Tail-lights and Wing Lights on Aircraft—**  
E-L Model S-1372 causes tail-lights to blink alternately,  $1\frac{1}{2}$  seconds each. No rotating equipment is involved in the action of this device. Power capacity is optional. Operates on 28 V DC. Dimensions:  $5\frac{1}{4}'' \times 2\frac{3}{4}'' \times 5''$ . Wgt.:  $1\frac{1}{2}$  pounds.



## Ryan

(Continued from page 40)

will be a rather extensive use of the helicopter if its technical progress continues to be as promising as its initial development indicates that it may be.

The short-haul feeder airline service and special commercial applications may, likewise, be expected on a substantially larger scale than before the war. They should continuously increase in scope of activity over a period of years, providing that they likewise have economic conditions and government policies that are sufficiently favorable. Feeder line operation should develop into a very large scale business, completing the domestic airline service to rural communities throughout the nation.

How about aircraft manufacturing? What will its position be after the war? We should have no delusions that the almost unbelievably vast scale on which aircraft are manufactured for emergency demands of war—estimated at seven times the dollar volume ever reached by the automobile industry—can continue. It must, of course, be readjusted to proportions that the peacetime market will justify.

If airline development, private ownership, and other commercial utilization takes place on the scale that is feasible and within the grasp of our country, there should be a large, sound and continually expanding aircraft manufacturing industry in this country. The rising curve of aircraft production which existed before the war should be picked up at a point much higher than where it was broken by the tremendous peak interposed by the war.

This brings up another point which is in the minds of many people. What about the tens of thousands of government-owned airplanes left over when the war ends? What about the large number of factories built for airplane war production by the government and owned by the Defense Plant Corporation, an agency of the government?

Some very constructive steps have already been taken by responsible government agencies in anticipation of these problems. The vital facts seem to be well-recognized and appreciated—that the very life of an aviation manufacturing industry depends on government policies. It seems to be agreed that the great surplus of wartime planes should not be permitted to flood the market and stifle the design and production of new-type airplanes.

What to do with the factories built by the government for wartime peak airplane production? This does not seem, as yet, to have had as much attention. This question, likewise, is a matter that rests in the hands of our government. There has been speculation about the possibility of the government using these war-contracted plants to set itself up in the airplane manufacturing business. If this happened, it would be, of course, throwing overboard our American free enterprise system. The spur of healthy competition, freedom of action, and individual initiative which have kept America in the lead would be lost. But I think few Americans seriously believe that there is real danger of any such radical step. The government has shown

no indication of any such idea and is, after all, the representative of the citizens. There is no doubt that the people of this country wish to preserve our American free enterprise system. It has brought them the world's highest living standards—preservation of which is one of the things they are fighting for.

I believe a simple and sound policy would be to take out of production the factories which were built by the government for the war emergency and which are not needed for airplane production after victory. They could be used solely as government warehouses for the storage of large numbers of left-over war planes. It should be remembered that these factories were built primarily as weapons of war. Their cost is justified as a part of the cost of winning the war. Yet these plants do not have to be entirely written off. They would be of value as reserve facilities ready on short notice in case of any future threat of war. They would have great value as a discouraging element to any potential future enemy ambitions—as "fire extinguishers" or "peace insurance," if you will.

### 'Plants Good for 20 to 50 Years'

These plants, properly cared for, should remain in a serviceable condition for twenty to fifty years, depending on their type of construction. They are, in many cases, adjacent to the plants owned by the established aircraft manufacturers. It would seem wise for the government to make provision whereby portions of these war-built plants could be taken over from the government periodically as required by the aircraft manufacturers. They might either purchase or lease such portions of them, as their business growth justified. It requires no optimism to expect that the growth of the industry over a period of years would enable it to absorb much and possibly all of this manufacturing space.

The storage of the tremendous number of surplus war-built airplanes would have a parallel advantage to our country for a period of years. This period will be somewhat less, however, due to the fact that development in design will render current planes obsolete in four to ten years at the outside. However, even if partially obsolete, they would prove tremendously valuable in an emergency due to the large numbers immediately available. After more up-to-date types were constructed, they would still be useful in wartime for transport and training purposes.

The other advantage of this policy would be to avoid the destructive and virtually fatal effect on the American aircraft industry of "dumping" these airplanes on the market, either domestic or foreign. Such would, of course, strangle progress for many years to come. It would leave this country lagging far behind in aircraft development and production which is vital to the well being of our nation.

Still another factor in post-war aviation is that with such wise policies carried out by the government, the aircraft industry could very well prove to be one of the main direct factors in a great surge of industrial and commercial activity. Air transportation and manufacture might well lead in post-war readjustment, and the re-employment of our people.

This all ties into one pattern to accomplish the greatest benefit to our

people. Both economic prosperity and national security will be served by promptly-established policies which make possible the fulfillment of such all important plans for the nation's future.

Regardless of what system of collective security of nations is established after the war, the United States will be wise to make sure that no other country ever again can forge ahead of it in airplane production.

If there ever is another war, it will be even more of an aircraft war than this one. No nation will ever dare to break the peace again without an air fleet much more powerful than its neighbors.

When the war began, our aircraft manufacturing facilities were puny indeed compared to Germany's. We've had to make up a lot of lost ground since 1939, and it's only because we did it much faster than the Nazis counted on that there are no enemy troops in England or America today. Let's never again let any country get such a lead on us. Think of the lives that could have been saved if we'd followed a policy of intelligent preparedness.

I want to make it clear that I'm not advocating a huge force of combat planes to be maintained by America after the war, unless special military conditions require it. The size of our standing air force should depend somewhat on the peace treaties and international policing arrangements which emerge from the armistice. I do advocate an adequate standing air force, large by comparison with our previous tiny peacetime total, but small in comparison with its peak wartime size.

The most important point of all is that we need a healthy aircraft industry, holding our lead in scientific advancement, and retaining the basic production capacity which could turn swiftly to building a tremendous air force if the need ever arose. This, with a complete network of domestic and world airlines, and proper development and utilization of smaller aircraft by private ownership and special services, can be very large factors indeed in guaranteeing this country the peace and prosperity its people deserve.

### Favors Government 'Aid'

A strong air transport system, government-aided in its early stages but privately-operated on the American competitive system, will keep our aircraft industry strong enough to discourage anyone else from trying to outbuild us. For that reason, it's only common prudence for the government to plan and act now to assure a great new scale of American aviation activity as soon as this war ends.

If, in the economy wave which is likely to follow the war, anyone shouts: "We can't afford to help aviation," the only logical answer is "We can't afford not to."

If America wants maximum possible employment and prosperity after the war, if it wants to get its share of the new international trade that will be opening up on an immense scale, and if it wants to insure its military safety; if, in fact, it wants to provide the right kind of America for its children and their children, then it must make sure that our government develops aviation to the full possibilities that it holds. Let's start now to educate and make certain the American people and their government fully appreciate and understand that urgent necessity!

## House Considers 8c Postage, Changes in Renegotiation Law

The new tax bill, now pending before the House, increases the airmail rate to eight cents and makes several amendments to the renegotiation law.

The bill makes the following changes in renegotiation:

(1). Reduces the area of renegotiation by (1) increasing the existing exemption of \$100,000 to \$500,000; (2) narrowing the definition of subcontracts to include only those articles to become a component part of the final product; exempting all subcontracts under exempt prime contracts and subcontracts; (3) providing for the discretionary exemption of standard commercial articles in cases where competitive conditions have been restored.

(2). Validates the renegotiation process by requiring the inclusion in all contracts of a clause providing for renegotiation and (2) setting up standards for the consideration of the War Contracts Price Adjustment Board and the Tax Court of the U. S. in determining excessive profits.

(3). Requires that procurement agencies reduce the proper appropriation to reflect contract price reductions.

(4). Changes renegotiation procedure by (1) establishing a War Contracts Price Adjustment Board of five members—one from each of the procurement agencies; (2) providing for the determination of excessive profits *de novo* by the Tax Court of the U. S.; (3) requiring the computation of profits in the same manner as for income tax purposes, including amortization.

(5). Reaffirms existing law by speci-

### Douglas Taxes 'Largest'

Nearly \$12,000,000 in withholding taxes paid by approximately 188,000 employees was included in returns filed by Douglas Aircraft Co. last fortnight for the third quarter of 1943. Statements signed by Donald W. Douglas, president of the company, for the period ending Sept. 30 actually totaled \$16,389,950.22. This larger sum, however, included old age benefits, California employment taxes, and large contributions required from the Douglas company. The sum has been termed the largest Federal tax contribution from any one group of workers in U. S. Treasury history.

### Boosts Nylon Rope

E. I. du Pont de Nemours and Co. in a recent announcement predicts that Nylon rope, manufactured by the company, will play an important part in postwar air pick-up services. "Its shock-absorbing property gave Nylon rope its first job, in 1940, picking up airmail in a non-stop service operated by All-American Aviation," says the announcement. "The postwar world should find its op-

### Convair Seeks Army Manpower

Consolidated-Vultee Aircraft Corp. has begun listing names of needed employees now serving in the Army. The names will be submitted to the Army with requests that the men be returned to their jobs at Convair. *Consolidated News*, the company's newspaper, predicts in a recent issue that 7,500 Army men may return to their jobs on the West Coast after reclassification. Opportunities greatly broadened.

fying that renegotiation is to occur "be fore" and not "after" taxes.

(6). Specifies that contracts made after the cessation of hostilities are to be non-renegotiable.

### Looking Over an 'Aeroncar' Design



Peter Altman, consulting engineer for Aeronca Aircraft Corp., is showing his postwar designs for the new sea and air 'Aeroncar' to his colleagues. Left to right—Ed Burn, director of research; Carl Friedlander, president; Altman; W. D. Hall, chief engineer; Elmer Sutherland, vice president; and Al Helmers, secretary-treasurer.

### Paper 'Chute

A paper cargo parachute, expected to be useful in dropping supplies to troops, has been developed by the Navy Department, it was announced last fortnight. The parachute, made from specially creped paper, has been in the process of development for the past four months. It will safely carry a load of 100 pounds when released from a plane flying at 180 mph, the Navy claims. It is 16 feet in diameter when open, and will withstand any kind of atmospheric condition, and other climatic factors, it is said.

### Miss Cochrane Predicts Few WASP's Will Land Postwar Flying Jobs

Only 25% of the Women's Airforce Service Pilots will find jobs in aviation after the war, Jacqueline Cochrane, Army's Director of Women Pilots estimated in a speech before the recent New York *Herald-Tribune* Forum. Nearly 1,000 girls are now enrolled in the WASPS, with the number increasing by about 100 a month, she said.

Miss Cochrane predicted that girls would find post-war aviation jobs limited to flying small commercial planes, working in traffic control towers, and training air students. She pointed out that "a hundred times more women than are numbered in the WASPS are at work for the Army in aviation ground skills" and forecast better postwar aviation possibilities for women in weather forecasting and broadcasting.

Calling their job "aerial dish-washing," she said WASPS ferry 17 different planes in the U. S. and Canada, break in new engines by slow time in the air and perform target-towing and tracking missions for anti-aircraft batteries. She stressed the difficulty and monotony of their work, adding that several of the women pilots had already been killed on duty.

The WASPS were assigned an official uniform during the past fortnight, an Army announcement stated. The dress uniform consists of a jacket, skirt and beret of Santiago blue wool gabardine, worn with a white cotton shirt and black tie. For flying, WASPS will don slacks and a waist-length "battle jacket" of the same material. Their trench coat is putty-colored, waterproof wool gabardine with removable dark blue lining. They will wear gold-lettered WASP insignia, Air Corps lapel wings, and AAF sleeve patch, and shoulder insignia identifying the unit to which they are assigned.

### UAL Has 40% Women

United Air Lines announces that 40% of its 7,500 employees are women. A breakdown of the company's report shows that 85% of the personnel in its passenger service department, 80% in the accounting department, and 75% in the traffic department are women.



## *"Where were you last night, Daddy?"*

THAT'S a big question to ask of any man who travels by air. It can cover a lot of ground—and water, too!

You could have been in Honolulu. Or you could have finished your business in Washington or Mexico City.

As a matter of fact, you could have been almost anywhere last night, within a radius of 3,000 to 4,000 miles, and still be home right now. You get back in a hurry, *when you travel by air!*

Today, the reduced number of transport planes in scheduled Airline service limits the number of passengers and tonnage of mail and express that can be carried by air.

But the vast network of airways which the Airlines built during 16 years of peace still stands as the

greatest air transport system in the world—linking hundreds of U. S. cities and scores of foreign countries.

And integrated with this system, there are more than 100,000 miles of Army and Navy air-supply routes over which Airline personnel help to operate an armada of transport planes in war paint.

So when the war is over, the question—"where were you last night?"—will certainly cover a lot more ground—and water, too!

*When you travel by Air make reservations early; please cancel early if plans change. When you use Air Express speed delivery by dispatching shipments as soon as they're ready. Air Transport Association, 1515 Massachusetts Ave., N. W., Washington, D. C.*

**MONEY TALKS . . . MAKE YOURS SCREAM—BUY BONDS!**

**THE AIRLINES OF THE UNITED STATES**

**AIR TRANSPORT GETS THERE FIRST . . . PASSENGERS . . . MAIL . . . AIR EXPRESS**

ted  
to  
the  
ced  
ade  
has  
ent  
will  
nds  
; at  
16  
will  
eric  
ac-

s  
nd  
obs

erforce  
iation  
arane,  
est-  
New  
Yearly  
ASPS,  
ut 100

would  
ed to  
working  
ng air  
hun-  
num-  
or the  
fore-  
ilities  
and  
ing,"  
lanes  
new  
per-  
essions  
essed  
work,  
pilots

fficial  
t, an  
dress  
and  
rdine,  
black  
lacks  
f the  
t is  
rdine  
They  
signa-  
sleeve  
fying

40%  
A  
report  
n its  
in  
% in

43

# Pre-Hearing on Latin American Routes Held; Another Probable

By GERARD B. DOBBEN

**A**NOTHER PRELIMINARY SKIRMISH in the battle for foreign air transportation rights which brought the principals together for the first time under Federal auspices took place last fortnight when the Civil Aeronautics Board held the long delayed pre-hearing conference on applications for new and extended air routes to Latin America and the Caribbean area.

While CAB did not expect too much from this conference, some procedural steps were taken which ultimately will result in establishing the date for the hearing proper, probably in March or April of next year. Another pre-hearing conference appears to be a certainty because many questions that are usually settled before the hearing date is set were left in the air.

Parties left the conference with the distinct feeling that the showdown between the various types of transportation companies, if Congress does not settle the issue in advance, is definitely on its way. All were impressed by the determination manifested by the steamship companies, four of which were represented in the proceedings.

While counsel for the water carriers did not exhibit quite the unanimity of thought that was expected, the conference did disclose that they will fight the provisions of Section 408 along two definite lines. The one line of attack appears to be based on a possible ambiguity in the Act itself which relates to a restriction against an air carrier controlled by a surface company from receiving a certificate. It appeared they would contend that they propose to operate the air service as auxiliary to their steamship operations, integrating it with surface operations wherever it was felt the public interest would be served.

The other line of attack hinges about a provision in the Merchant Marine Act of 1936 which counsel for Moore-McCormack Lines, Inc. of New York contends gives the steamship a right to be considered in the field of air transport. The provision of the law referred to is found in Sect. 212 B-2 which reads as follows:

"There may be constructed by or with the aid of the United States express liner

or super liner vessels comparable with those of other nations especially with a view to their use in national emergency and the use in connection with or in lieu of such vessels of transoceanic aircraft service."

"We will show a method of operation which will conform to Section 408 of the Civil Aeronautics Act. We will put into the record what we believe to be an oversight of CAB in the American Export Case. I refer to Section 212, B-2 of the Merchant Marine Act of 1936 which antedated the 1938 Civil Aeronautics Act and which states that air service may be used by steamship lines," Moore-McCormack counsel stated.

Other steamship companies which have applications pending for Latin America service said that if necessary to obtain air routes, they would obey the Board's ruling regarding divestment as was laid down in the American Export Airlines Case. One of these was International Airways, Inc. while still another was Waterman Airlines, owned by the Waterman Steamship Corp.

United Fruit Co., through its vice president William K. Jackson, claimed it would come into the proceeding under section 401 of the Aeronautics Act as it did not believe section 408 was applicable.

Examiner Brown had called on Public Counsel Stuart G. Tipton, Assistant General Counsel of CAB, who explained that United Fruit would have to prove eligibility under Sect. 408. Jackson then said his company would prepare to do so.

Jackson told the hearing that his company, which has applications on file for extensive air routes in the Caribbean area, was prepared to show that it had more experience with costs in the Latin America area than any other applicant.

"We are prepared to show considerable evidence regarding the economies our company could make if permitted to operate air lines in the area. We have airfields scattered through the area and we are asking for many terminal points not now served or included in any existing air service of Pan American or Panagra," he declared.

Henry J. Friendly, counsel for Pan-American Airways, said his company

would have something to say about foreign flag competition. He further stated that his company would have something to say about the proposed competition from domestic carriers who have access to the large traffic centers of the United States. G. A. Gesell, attorney for Panagra, indicated Panagra's case would be similar to that of Pan American.

Grace Lines and W. R. Grace & Co. were represented by Fred J. Knauer. When W. R. Grace and Co. filed a motion to intervene in the proceeding, Examiner Brown indicated he would recommend to the Board that the motion be denied. Several of the other carriers interposed objections to this motion.

Hamilton O. Hale of American Airlines, expressed the view that the hearings on these applications were premature because he felt some of the carriers might be more interested in Latin America routes if they could previously know the decision on applications involving trans-Atlantic service. American Airlines was interested in the current proceedings because it has an application on file asking the Board to make permanent its temporary certificate for service between El Paso and Mexico City.

Counsel for two foreign companies asked to have their plans for routes to the United States consolidated in the proceedings. Those represented at the hearing were Aerovias Brazil and KLM. Examiner Brown stated that because the Board's call or official notice did not include foreign carriers in the hearing, he would have to take their requests to the Board for a ruling.

Examiner Brown made it clear that he would recommend to the Board that the applications affecting the Latin America and Caribbean area should be considered only as far as the first terminal in the United States. Some of the domestic carriers have applications on file which would extend their present routes to Florida and southern border terminals so as to tie in with their proposed expansion into the foreign field.

What may become a policy with reference to future hearings on both domestic and foreign applications is the program being carried out by public counsel in this case. Under Tipton's direction, CAB technicians are developing the economic and statistical data relating to the foreign countries involved in the applications. Heretofore applicants individually have prepared this data but because of expected difficulties in obtaining pertinent information in this case, the material is being prepared under the Board's direction. Most of the applicants indicated a willingness to use this material in the preparation of their case although Examiner Brown pointed out individual applicants would be permitted to submit supplemental material if they wished to do so.

A suggestion by Jackson, of United Fruit Co., that the hearing be regionalized as far as possible received favorable consideration. Examiner Brown promised he would give thought to staging the hearing in such a way that carriers interested in only certain areas would be able to present their cases on specific days.

It was agreed that a complete summary of each applicant's case, together with names of witnesses to be called, would be submitted sometime between Jan. 1 and Jan. 15.



Part of the large crowd attending the pre-hearing conference on Latin American air routes can be seen in the above picture. CAB Examiner Francis W. Brown is in the foreground.

# Petroleum Research and War in the Air

One of a series of original Esso research developments that help give U. S. planes an edge in the air.



**I**N every gyro-instrument in a plane, the gyroscope is supported by ball-bearing assembly not much larger than a pencil eraser . . . made to tolerances of .0002". Even a microscopic speck of surface corrosion or abrasion spells ruin.

So at Sperry Gyroscope Company, pioneers of gyroscopic instruments, the need for a protective lubricant for these vital parts assumed the proportions of a major headache.

Sperry brought the problem where so many aviation lubrication problems have wound up these past few years . . . to the Esso Laboratories.

The result was an entirely new, low-viscosity, rust-preventive oil with which gyroscopes showed 250% to 350% longer life than before . . . and with atmospheric temperatures spread over more than 200 degrees!

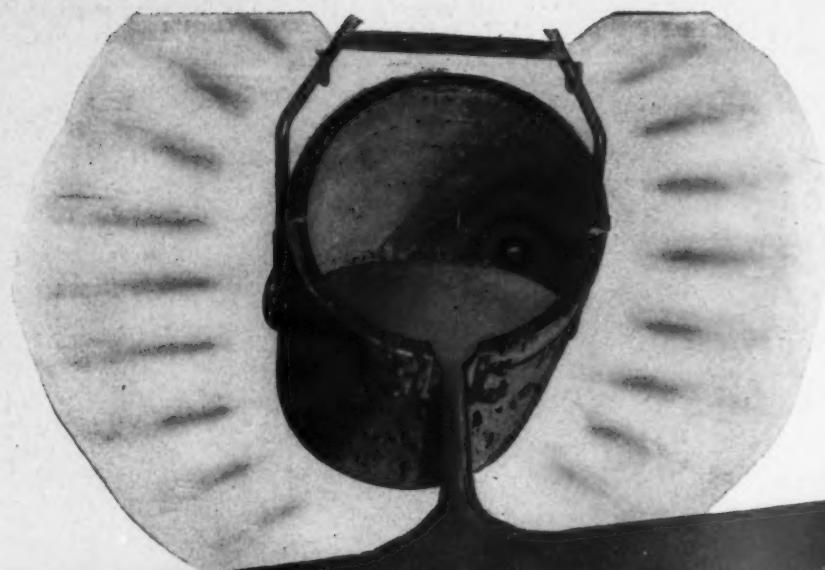
Today this new oil—Esso Aviation Instrument Oil—is being recommended for all exacting aviation jobs needing a highly refined, low viscosity oil, as well as in distributors, generators, electric motors.

No nation on earth has come near this country's skill in development of petroleum products for avia-

tion. And we take pride that one important reason is the air-minded, forward-looking research of Esso labs, working with America's aviation people down through the years.

\*ARMY-NAVY SPECIFICATION AN-O-4





America's New Source of  
Aluminum • Ingot • Sheet  
Extrusions • Wire • Rod  
Bar • Forgings • Tubing  
Foil • Powder • and  
Finished Aircraft Parts

**Shortening the steps from Bauxite to Bomber . . .** Having built the first and only plant in the country where bauxite comes in at one end and aluminum sheet rolls out the other, Reynolds now carries the process still farther . . . making finished aircraft parts right at the aluminum source.

Since scrap from these parts averages 30%, Reynolds pre-fabrication saves aircraft manufacturers valuable storage space and labor . . . saves America precious shipping space and inevitable waste in handling. Reynolds turns out finished parts, quicker . . . and puts the scrap "back into the scrap" immediately.

For "flying aluminum," call for a Reynolds Sales Engineer . . . available throughout the United States.

**REYNOLDS METALS COMPANY**  
PARTS DIVISION • LOUISVILLE • KENTUCKY  
GENERAL OFFICES • RICHMOND • VIRGINIA  
38 PLANTS IN 13 STATES



Reynolds Aluminum and finished airplane parts start in this Arkansas bauxite mine. Reynolds mines more bauxite per year than had ever been mined yearly before the war in the United States.



Aerial view of Reynolds plant at Listerhill, Alabama. Here bauxite is refined into alumina; the alumina is reduced into aluminum; and the aluminum is cast, alloyed and fabricated into sheet and rod.



Reynolds rolled aluminum alloy forging stock, tested and Army-Navy inspected, ready to be forged into aircraft propellers.

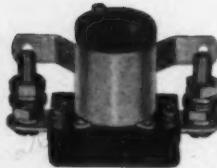
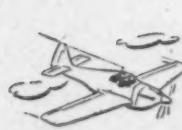


View of the Reynolds 300,000 sq. ft. expansion of the Parts Division in Louisville. New equipment includes giant 5,000 ton hydraulic press.



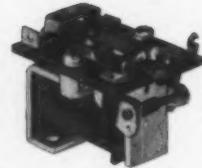
# Relays by GUARDIAN

FOR EVERY CONTROL NEED



### SC-25 LIGHTWEIGHT CONTACTOR

A lighter, more efficient contactor for AAF type B-4 continuous duty applications. Double wound coil draws 2 amperes closing contacts firmly. Then an auxiliary switch cuts in a higher resistance reducing current to .18 amperes. Advantages are lighter weight, firm closing of contacts, smaller current drain. Weight: 21 oz. Write for bulletin SC-25.



### SERIES 195 MIDGET RELAY

One of the smallest of all relays. Built for aircraft and radio applications where space and weight are at a premium. Contact rating: 2 amps. at 24 volts D.C. Switch capacity up to double pole, double throw.



### SERIES 345 RADIO RELAY

A general purpose radio relay designed for aircraft use. Contact combinations up to three pole, double throw. Coil resistances range from .01 ohm to 15,000 ohms. Standard voltage: 16-32 volts D.C. Available with delayed release or delayed attract. Weight: 6½ oz. Also built for A. C. operation (Series 340).



16 pages of factual data, complete with charts and diagrams on Aircraft Relays, Solenoids, Solenoid Contactors and Aircraft accessories, built to government specifications. Write today.



**GUARDIAN** **ELECTRIC**

1608-N WEST WALNUT STREET

CHICAGO, ILLINOIS

A COMPLETE LINE OF RELAYS SERVING AMERICAN WAR INDUSTRY

## AA Questions Public on Postwar Air Travel Likes and Dislikes

AMERICAN AIRLINES last fortnight mailed out a comprehensive and attractive questionnaire seeking to determine from passengers and prospective passengers what their likes and dislikes will be in postwar air transportation.

The questionnaire, done up in booklet form and described by American as a "conference-by-mail," has elicited favorable comment in many quarters.

Would you prefer a berth for an overnight air trip or would you prefer to pay a substantial extra fare for a compartment? Should extra space on large airliners be used to provide more spacious individual seats at extra fare or for increasing the number of seats, making lower fares possible? Would you like to check your baggage as at present or take it into the cabin, with only heaviest baggage checked?

By answers received to such questions, American expects to get a cross-section of thinking which may affect both postwar planes and service.

The public is asked what "extras" it would like to have—ship-to-ground radio and telephone service, pressurized cabin, illuminated panel in the cabin indicating the sector over which you are traveling, individual "silent" radios, a library of current books in addition to magazines, or a ticker news service.

Other questions included:

Would "ou pay a premium for extra fast service? Do you favor the 24-hour clock? Would you prefer "open" seats or "reserved" seats and would you pay extra for a reserved seat on commuter flights? Would you prefer a stewardess or a steward or both? Would you prefer food service at no extra cost but with no choice, or a choice of menus at extra cost? Should there be separate smoking compartments? Should alcoholic beverages

be served in flight (would your answer be the same on international routes where foreign lines do serve such beverages)? What cities on American's routes and prospective routes do you have occasion to visit for business or pleasure? What countries abroad would you like to visit?

In flying abroad, would you patronize an American or a foreign airline? Do you believe the airlines can meet your postwar travel needs or do you also want to pilot your own plane? Should pets be carried by air? Would you prefer a regional airport serving several cities or separate local airports, the latter probably justifying less frequent service and smaller planes?

Do you prefer to take a taxi to the airport or use a limousine from a central location? Would you be likely to use a hotel at an airport or would you go "downtown" to an airport?

On airports, the questionnaire seeks to determine whether the public believes the following are "O. K. as is" or need improvement: waiting rooms, rest rooms, restaurant, shops, parking facilities, garaging facilities, central information bureau, telephone and telegraph service, porter service, baggage and parcel checking.

Should all first-class mail go by air? Would you prefer to fly over water in landplanes or flying boats, or don't you care? Does seating capacity of planes make any difference to you?

"... we cannot plan our service for tomorrow half so well alone, as we can with your help," says AA President A. N. Kemp in the questionnaire. "The likes and needs of American air travelers have been our guide in the past. They will continue to be in the future."

### Discuss WAL Route



A recent conference over Western Air Line's proposed Inter-American route brought together, left to right, Harry Alonso Dae-English, consul of Paraguay; William A. Coulter, WAL president; G. Lopez Fabrega, consul of Panama; and Dr. Emilio Lascano Tegui, consul of Argentina.

## CAB Calendar

DEC. 6—Pre-hearing conference on Northwest's application for route from Minneapolis-St. Paul to New York. (Docket 629).

DEC. 13—Pre-hearing conference on Colonial's application for a route from New York to Massena. (Docket 609).

JAN. 10—Consolidated hearing on applications of Western, Continental, United & TWA involving service between Denver & Los Angeles. (Docket 519 et al.).

## Board Renews Two Caribbean Permits

Only two out of five temporary foreign air carrier permits in the Caribbean area have been renewed by the Civil Aeronautics Board.

The Board ruled on Nov. 9 that the permits of Royal Dutch Air Lines (KLM) and Expresso Aero Inter-American would be renewed for three months from Nov. 1. Permits of Cubana, TACA and British West Indian Airways were not renewed. These companies had never started operations under their original authorizations.

"Data available to the Board shows that while traffic in the Caribbean area is heavy, the traffic congestion in that area is not as severe as it was at the time of issuing such permits," the order said.

KLM, the Board explained, began Curacao-Miami operations on Aug. 17 using three Lockheed 14s and is now operating two round trips weekly "with substantially full loads and with bookings for the future indicating that such loads will continue indefinitely."

Expresso opened Miami-Havana cargo service Sept. 3 with one Sikorsky S-38 and two Ford tri-motors and is now operating six round trips weekly carrying "substantially full loads. The total amount of traffic carried on this operation has increased steadily since its inauguration and amounted to a total of 31,212 lbs. during the month of October, 1943."

## Northwest Airlines Reports \$614,301 Net Income; Cites Lower Transport Revenue

A net income of \$614,301 is reported by Northwest Airlines for the fiscal year ended June 30, amounting to \$2.61 for each of the 234,920 shares of stock outstanding, the company reports. A surplus of \$1,469,489 is announced.

The report reveals that the company's financial record was attained in the face of a 50% reduction in the number of aircraft operated, and that operating revenues from passengers, mail, express, and other sources were 91% of the previous year. Northwest's large-scale aviation operations for the War Department are noted, and the report claims that the airline currently employs more persons than any other domestic airline in the United States.

## Braniff Quarterly Report

A net profit of \$305,543 after charges and federal taxes is reported by Braniff Airways, Inc., for the quarter ended Sept. 30. This is equal to 30c a share on 1,000,000 shares of capital stock and compares with a net profit of \$191,993, equal to 19 cents a share, based on the same capitalization in the same quarter of 1942. Operating revenue for the 1943 quarter was \$1,459,765, against \$860,014 a year ago.

Braniff announces adoption of a policy of distributing a substantial part of its future net earnings in dividends, and a "modest" quarterly dividend will be paid shareholders as long as earnings permit, with extra dividends when justifiable. The company recently declared a 15c quarterly dividend, payable Nov. 15 to stockholders of record Nov. 10.

### PAA Gets Curacao Stop

Pan American Airways has reached an agreement with the Netherland West Indies government to add a stop on Curacao for transport planes on the PAA Miami-Caribbean run. Three landings weekly at Willemstad on both north and south flights of the airline are provided for in the agreement.

## Strengthen Small Airlines by Merger or Consolidation—Ryan

**A BELIEF THAT** the sound expansion of the domestic air pattern of the United States is linked up with the proper development and expansion of the smaller air carriers was expressed by Oswald Ryan, member of the Civil Aeronautics Board at the joint meeting of the Kansas City Chamber of Commerce and the Air Traffic Conference of America held at Kansas City Nov. 10.

Ryan said he favored an opportunity for the smaller carriers to increase their size and strength through expansion or through consolidation wherever their plans are economically and geographically sound and in accord with the policy of the Civil Aeronautics Act.

The speaker took a strong position with reference to healthy competition, asserting that air transportation is the type of industry that promises to develop most rapidly and wisely when it must meet the principles and policies that have marked the general growth of business and industry in America.

"I call your attention to the fact that the conditions of natural monopoly which have generally obtained in the various types of public utility enterprise do not exist in the air transportation industry to render competition either impractical

or uneconomic," Ryan said. "The inherent characteristics of air transportation, especially its freedom from the necessity of large fixed property investment, the relatively small amount of capital required in proportion to the volume of the service rendered and its relatively small fixed costs, make this industry peculiarly adapted to competitive economy," he asserted.

The speaker emphasized the obligation which devolves on the nation to insure opportunities for employment in the country's economic life for the men of our armed forces when they return home. Because such a large percentage of these men shall have had training in various phases of aviation, he said the country must address itself to an aviation program more comprehensive than it has ever had before, if it is to contribute to the maximum of its usefulness as an aid to human happiness.

"A nation worth dying for in time of war must be a nation worth living in in time of peace. We shall be unworthy of those who have borne the battle if we permit the streets of our cities in the postwar period to resound to the tramp of unemployed millions searching for jobs they cannot find," he said.

ment. Between March and June, 1942, the company's fleet of transport ships has been reduced from 79 to 43.

**AIR EXPRESS DIVISION.** Railway Express Agency, reports that air express cargo moved in combined rail-air service during August totaled 34,664 shipments, an increase of 26.7% over August, 1942. Express charges on these shipments increased 47.4% compared with August a year ago.

### Report to Chairman



James G. Ray, right, vice president of Southwest Airways, and Walter Roche, center, general counsel, are shown with Leland Hayward, chairman of the company's board, on their return from the Feeder-Pickup hearings in Washington. They reported "many accomplishments."

## LAMSA Elects Wm. Taylor, Famous Engineer, President

William Taylor, well known Latin American and Panamanian engineer, has been elected president of Lineas Aereas Mineras, S. A. of Mexico, United Air Lines reports. United only recently acquired a controlling interest in LAMSA, which operates passenger, mail, and express flights through Central Mexico.



Taylor

of Ohio, Taylor has spent many years in various mining and manufacturing enterprises in this country and Latin America. He spent more than nine years in Panama on government engineering projects. His headquarters will be in Mexico City.

## Hughes Asks CAB Approval Of Its Control of TWA

Hughes Tool Co. of Houston, Tex., has filed with the Civil Aeronautics Board an application for approval, if approval is deemed necessary, of its control of Transcontinental & Western Air, Inc.

The application stated that all of the stock of the Hughes Tool Co. is owned by Howard R. Hughes, who is president of the company. The tool company, the application revealed, owned, as of July 31, 1943, 440,050 shares of the capital stock of TWA, being equal to 45.8% of a total of 965,083 shares outstanding on that date. Hughes Tool Company, manufacturer of oil field equipment, makes airplanes under name of "Hughes Aircraft Co.," Culver City, Cal.

## Vote On NWA Stock Increase

Northwest Airlines' stockholders were to have voted Nov. 30 on the management's proposal to increase the company's authorized capital stock from 300,000 shares to 600,000. Under the proposal the directors would be authorized to issue unissued common shares at prices and terms fixed by the airline's board. Croil Hunter, president, announced that Northwest Airlines has no bank loans outstanding. Bank loans were made to finance war contracts during the fiscal year ended June 30, but these were subsequently paid, and the contracts are now financed by advance payments received from the Army.

### Cites CAB's 'Thoroughness'

The Civil Aeronautics Board is to be commended for the "thoroughness and earnestness" with which it studied the Local Feeder-Pick-Up picture at the recent "feeder hearing" in Washington. James Ray, vice-president of Southwest Airways, told the American Aviation West Coast reporter in a recent interview. Ray pointed out that the hearings established the need of feeder service to tap the short haul field, and the fact that such service would be self-supporting.

## American Airlines Takes Stock of War Activities

A recent survey of wartime activities of American Airlines, Inc., reveals the airline has had a part in almost every phase of military operations except actual fighting.

● AA undertook the training of pilots, navigators, radio operators, transportation officers, and mechanics for the Air Transport Command and the Naval Air Transport Service in February, 1943.

● Representatives of the airline have participated in experiments leading to development of life-raft equipment and devices for making sea water potable.

● In conjunction with the engineering department of Edo Aircraft Corp., AA engineering engineers worked out the details involved in putting the first pontoons on the C-47. All of the planes which American is flying on the transoceanic routes come into AA hangars at La Guardia Field for overhaul and repair. B-24 and C-46 modifications have been handled, and conversion of a C-47 and a C-54A into litter ships for the transport of wounded has been accomplished. Test flights of all these planes have been made.

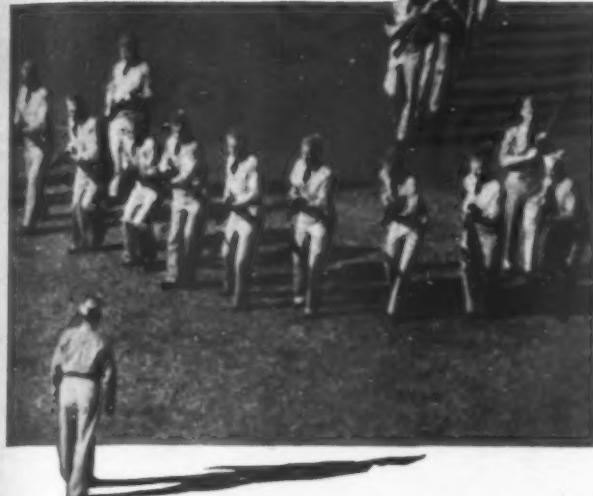
● American crews have pioneered routes across the Pacific and Atlantic, and have performed numerous "special mission" flights.

● Besides the men who are still flying for AA under contract to the Army or Navy, 125 have been given leaves and are flying for the services. Chief among them is Brig. Gen. C. R. Smith, former president of the airline. A total of 1,569 employees of the company are in the services.

● Before the United States was directly involved in the war, seven of American's planes were purchased by the govern-

# PEOPLE with a PUNCH!

## INSTALLMENT TWO\*



A Reserve Guard platoon demonstrates a "Spear-head Wedge" formation used in crowd control

{below} Reserve Guardettes show their proficiency at semaphore drill . . . a useful means of emergency communication

A year ago we first told the story of Beechcraft employees. We told of their spirit of personal sacrifice and extra contribution to the war effort. Here is that story's continuation.

The production records of which they were so justifiably proud a year ago have been shattered. Voluntary investments in War Bonds have been increased to more than 22% of our total gross payroll. Hundreds of Beechcrafters with a supercharge of enthusiasm and energy and loyalty have maintained the ranks of the Beechcraft Reserve Guard, some of whom are shown in these pictures of their Second Annual Review. These men and women voluntarily drill and practice in their free time so that they may be ready to cope with any catastrophe or emergency that may arise, whether caused by fire, sabotage, or act of God. They have sworn to protect life, war material, and the plant, in the interest of the war effort. They come from all departments of the Beechcraft organization, serve without pay, and buy their own uniforms.

It's a grim slogan that these *people with a punch* have adopted. But war is a grim business. And their record proves that they mean it when they say,

**"LET'S KILL 'EM WITH PRODUCTION"**

\*to be continued until Victory



# Beech Aircraft



C O R P O R A T I O N

BEECHCRAFTS ARE DOING THEIR PART

WICHITA, KANSAS, U. S. A.

aylor,  
ident  
Latin  
as been  
resident  
Aerea  
. A. of  
ited  
reports.  
ly re  
quired a  
inter  
AMSA,  
operates  
mail,  
press  
through  
Mexico.  
native  
Taylor  
mining  
in this  
e spent  
ma on  
. His  
City.

roval  
TWA  
, Tex.  
nautics  
aval, if  
of its  
Western

of the  
owned  
resident  
company,  
as of  
e capi  
45.6%  
standing  
company,  
ipment,  
Hughes

crease  
s were  
lement's  
authori  
shares to  
directors  
nissued  
s fixed  
Hunter,  
st Air  
Bank  
contracts  
30, but  
nd the  
advanc

to hi  
ss and  
ed the  
the re  
ington,  
thwest  
aviation  
inter  
earings  
service  
the fact  
opport

## Women in Air Transport



Alice Akins

(This is the fifth of a series of articles on women who are doing an outstanding but little publicized job for the U. S. airlines.)

**A**LICE AKINS is secretary to W. A. Patterson, president of United Air Lines, and she's a very busy lady.

She answers on the average of 40 phone calls a day, takes dictation of over 100 letters weekly, reads and reroutes an average of 1,000 pieces of correspondence each week and has been Patterson's "right hand gal" for the past six years.

Actually she is one of United's pioneers, having joined the company in 1930 as secretary to Harold Crary, now vice president-traffic and then director of publicity and advertising.

She was born in Chicago, attended high school there and then graduated from a Chicago business college. Her first position was that of secretary to the sales manager of a roller bearing company, and Miss Akins believes that the technical and engineering terms used in the company's correspondence have been valuable in her work with United. Her next position was with a large advertising agency, after which she became secretary to the executor of a \$55,000,000 estate, which led to the position of secretary to the president of an investment banking house.

Miss Akins admits it's a bit difficult keeping up with a boss who, in addition to the duties of his own company, is a director of three other companies and six associations as well as an active member of 15 national and local committees. However, she found time this summer to cultivate a successful victory garden.

Concerning her own job she says, "Air transportation is so interesting and vital and the progress is so rapid that one must be alert at all times to keep pace with developments. There can be no such thing as going stale on a job when one is as interested as I am in my work, with the grandest boss and one of the finest companies in the world, in the most modern of all businesses."

## Airline Correspondence

We traveled 1,200 miles out to Oklahoma City in November to attend the First National Clinic of Domestic Aviation Planning. . . . Oklahoma City, friends, is a place where they really do things—where hospitality isn't just another word in the dictionary. . . . Never have we seen a city go so all-out in efforts to make you enjoy your visit. . . . And they weren't just putting up a front—they really meant it. . . .

The clinic, we thought, was quite a success. . . . The discussions were interesting and stimulating and did everyone a lot of good. . . . And then there was the unscheduled—but lively—discussion over the Lea bill, with everyone determined to have his say. . . . The airlines were for the bill, the state officials against. . . . And the sideline debates went on far into the night. . . .

This trip convinced us—if we needed convincing—that the airlines are playing a tremendously important role in the war effort. . . . Army and Navy uniforms predominate among today's air passengers. . . . And we advise you not to plan any pleasure jaunts by air, unless you want to sit in an airport about half way to your destination (if you're lucky) and watch the priority passengers go by. . . . Priority 4s are bumped off for 3s and 3s for 2s on some trips, which makes it pretty tough. . . . However, we're amazed at the number of people who think it is absolutely necessary to have a priority to get on an airplane. . . . You can ride without a priority, but you take your chances. . . . The airlines need some more airplanes—but quick. . . .

Speaking of the airlines' part in the war effort, there was a service flag on the wall of American Airlines' Oklahoma City ticket office, showing that the company has 1,546 men and women in the service of their country. . . . But what hit home was the fact that there were also 11 gold stars on the flag. . . .

From Kansas City to Oklahoma City, we had our first ride on Braniff Airways, and our hat is off to Tom Braniff for furnishing an excellent service. . . . The interior of the plane was complete with murals and the softest seats it has ever been our pleasure to sit in while flying. . . .

In Kansas City we visited TWA and got quite an eyefull. . . . Hal Grayson of the TWA news bureau spent most of an afternoon walking our legs off through the TWA shops, the modification center and the school for aerial engineers. . . . At the mod center we were shown through a medium bomber and came away convinced that converting these ships for postwar commercial uses would be a pretty tough job. . . . The school for aerial engineers (for the Army) was a revelation. . . . It's been a long time since we saw a plant so efficiently laid out and with the courses so well broken down. . . .

Speaking of an efficiently-designed plant, Douglas Aircraft's Oklahoma City establishment stands far up the list. . . . It's producing C-47 cargo ships in numbers not designed to give the enemy any comfort. . . . One thought struck us—if you could only sneak one C-47 a day off that production line for the airlines wouldn't it be a happy situation? . . .

The Oklahoma City paper flattered us by printing our picture during the aviation clinic. . . . Being hospitable people, the editors, in the caption under the picture, went all out and identified us as "an American Airlines executive." . . . Our apologies to American. . . . Any resemblance between us and an American Airlines' executive is purely coincidental. . . .

In these days of shortages, this item from our west coast spy may be of interest. . . . W. E. Pereira, assistant flight superintendent of American Airlines at Burbank, devised a new method of extending the life of teletype ribbons. . . . His method: take the old teletype ribbon, thoroughly soak in a pail of water and then allow it to dry for three hours. . . . Result: five full days more use of the ribbon. . . . Another result: Pereira won a company suggestion award. . . .

Eric Bramley



THESE *Approved*  
**HOSE CLAMPS**  
*Feature WIDE CLAMPING RANGE*

★ Extra-long take-up in the band gives AERO-SEAL Hose Clamps *more than double* the diametral take-up required to cover variations in hose diameter, wall thickness, and the flow of rubber under repeated tightening of clamps in service. As shown here in table and pictures, each size of AERO-SEAL clamp can be used on several smaller sizes of hose by simply taking up the band (the table shows only recommended ranges for maximum pressure requirements). This permits substitution of a larger size clamp when the recommended smallest size (giving minimum band overhang) to fit a given hose is not available. *Write for samples.*



*Specially Good for*  
SELF-SEALING HOSE

**AERO-SEAL Hose Clamps**, because of extra-large diametral take-up, are exceptionally serviceable on self-sealing hose with its thicker, softer wall.

# Aircraft Standard Parts Co.

1721 Nineteenth Avenue, Rockford, Illinois



# 44 New Route Applications Filed With CAB in 2 Weeks

THE PRE-HEARING CONFERENCE of Nov. 17 on requests for air transport routes to Latin America and the Caribbean area precipitated a rush at the Docket section of the Civil Aeronautics Board which has been surpassed but once in the history of the office. From Nov. 5 to and including Nov. 20, 44 applications were filed. The highest previous total was 51 for the period from Sept. 10 to Sept. 23.

Foreign route applications, most of them for service to countries south of the Gulf of Mexico and the Rio Grande kept Docket Office employees working at top speed in their efforts to get the applications properly recorded and docketed.

While all the American flag carriers are represented in the new applications, domestic carriers too, as well as several applicants controlled by steamship companies, laid their expansion plans before the Board so that they might be considered in the important pre-hearing conference. Details of the action taken at the pre-hearing conference may be found on page 44.

Among the carriers now engaged in international air transport, the application of American Export Airlines is probably the most comprehensive. This carrier has asked for routes, two of which have their origin in the interior of the United States. Using Chicago, Washington, New York and Boston as co-terminals, the carrier seeks a route south from New York to San Juan, Port of Spain, Belém and Natal. At Natal one segment would go north to Dakar, Casablanca and Algiers, Africa, thence to Rome. At Rome, one route would connect Paris with Foynes, England, while the other would proceed to Athens. At Athens, one leg would connect with Istanbul, Bucharest and Sevastopol, the other would connect with Cairo, Basra, Karachi and Bombay.

The other segment from Natal would touch Ascension Island in the South Atlantic in giving service to the south Africa cities of Windhoek and Capetown. The route originating in Chicago would go to Boston where it would connect with the company's present route over Newfoundland to Foynes. Still another route would be from New York to Bermuda and thence to Foynes.

At a press conference in which the company's expansion plans were announced, J. E. Slater, vice president of American Export, said his company had designated Chicago and Washington as new co-terminals only because it was felt full trans-oceanic loads could be generated at these points. He said the company was not interested in entering the domestic field, nor was it particularly interested in South America.

Slater further stated that his company was proceeding with its plans to divest from steamship control and regardless of the outcome of pending legislation in Congress, his company would proceed with its plans to comply with CAB's divestment order.

Both Pan American Airways and Panagra filed for new routes in South Amer-

ica. In an effort to furnish a through express service, Pan American asked the Board to amend its existing certificates so that certain cut-offs might be accomplished. The carrier further offered to serve additional points in its territory so long as they did not conflict with operations and contemplated expansion of Panagra.

Panagra asked extensions in its service, some of which would parallel existing routes. It proposes to give service under new or amended certificates between Chiclayo to Roman Castella, Balboa, Lima and Buenos Aires; Cali, Iquitos, Buenos Aires; Buenos Aires to Montevideo and Mendoza to Tucuman.

Through a proposed extension of its domestic service to Miami and New Orleans, Pennsylvania-Central Airlines hopes to project an 8,000 mile network of routes into Latin America and the Caribbean area. Its foreign routes would touch 13 countries south of continental United States. Points to be served through New Orleans are: Merida, Belize, Guatemala City, San Salvador, Tegucigalpa, Managua, San Jose, Balboa, Barranquilla, Maracaibo and Caracas and Port of Spain. A crescent route would link Barranquilla with a cross-Caribbean service from Miami through Havana and Kingston. Port of Spain also would be the terminus of a projected route from Miami through Nassau in the Bahamas, thence to Camaguey, Port-au-Prince and San Juan. Still another route would connect New Orleans with Havana and Belize.

## Learning to Tend Baby



Pennsylvania-Central Airlines has included a course in baby care at its school for hostesses because of the increase in the number of infants being flown on commercial airlines. A group of students are shown tending a four-month-old baby, loaned to the airline for a classroom demonstration.

A 9,000 mile Inter-American airway has been requested by Western Air Lines. This would operate from the carrier's present terminal of Los Angeles to Rio de Janeiro, São Paulo and Buenos Aires, via Mexico City and 12 other cities south of the border. Other cities appearing on Western's proposed inter-continental route are: LaPaz, Guatemala City, San Jose, Balboa, Bogota, Iquitos, Cabiba, Santa Cruz, Asuncion, Curitiba, São Paulo, Porto Alegre and Montevideo.

Another domestic carrier to file for domestic routes was Delta Air Lines which requests permission to inaugurate service from Fort Worth, Dallas, Shreveport, Alexandria, Baton Rouge, New Orleans and thence to Havana.

National Airlines, Inc., asked to extend its service from Tampa-Miami to Havana and Mexico City and from Tampa-Miami to Rio de Janeiro, Buenos Aires, Montevideo, Santiago and many intermediate points.

United Fruit Airlines, a subsidiary of the steamship company, filed for three routes, two of them from New Orleans to Balboa and several intermediate points and a third from New Orleans to Guatemala via many other points.

This applicant stated it is an outstanding pioneer in the development of transportation facilities in Caribbean countries. It owns five steamship companies, five railway companies and one aircraft company. It pointed out in its application that the government has taken over all of its steamships for war activities and that because many of its vessels were converted to troop ships, it will not be able to restore adequate passenger steamship service to the area for several years.

This company which owns Compania Bananera de Costa Rica, stated it operated one small passenger and two freight planes. One of its railroad subsidiaries recently sold a Lockheed 12 which it had operated in the area of its proposed routes for 12 years, the application stated.

Another large steamship company which filed for South American routes was Moore-McCormack Lines, Inc. of New York which proposes to integrate steamship and airship service between New York and Buenos Aires over routes which would touch many cities south of the border.

A brief description of the routes asked in application filed during the last fortnight follows:

### American Airlines Inc.

This carrier filed an application asking that its temporary route between El Paso to Mexico City be made permanent. (Docket 1173) This company and Ralph S. Damon, vice president and general manager, has asked the Board to approve an inter-locking relationship whereby Damon serves, without compensation, as a consultant and director of Republic Aviation Corp. (Docket 1159)

### American Export Airlines

This company filed for new routes and was given Docket 1170 for its proposed U. S. to Puerto Rico route; No. 1171 for U. S. to Africa and 1172 for U. S. to India. See story above for details of this application.

### Braniff Airways, Inc.

In the interests of economy of operations this carrier asks the Board to consolidate its Routes 9, 15 and 50 into a single system (Docket 1154) Company also asks that Springfield, Mo. be made an intermediate stop between Kansas City, Mo. and Memphis, Tenn. (Docket 1147)

(Turn to page 56)

way has  
present  
Janeiro  
Mexico  
of the  
West-  
route are:  
Balboa  
Cruz  
Porto  
file for  
es which  
e service  
re-report.  
Orleans

o extend  
Havans  
a-Miami  
Monte-  
immediate  
diary of  
or three  
leans to  
the points  
Guata-

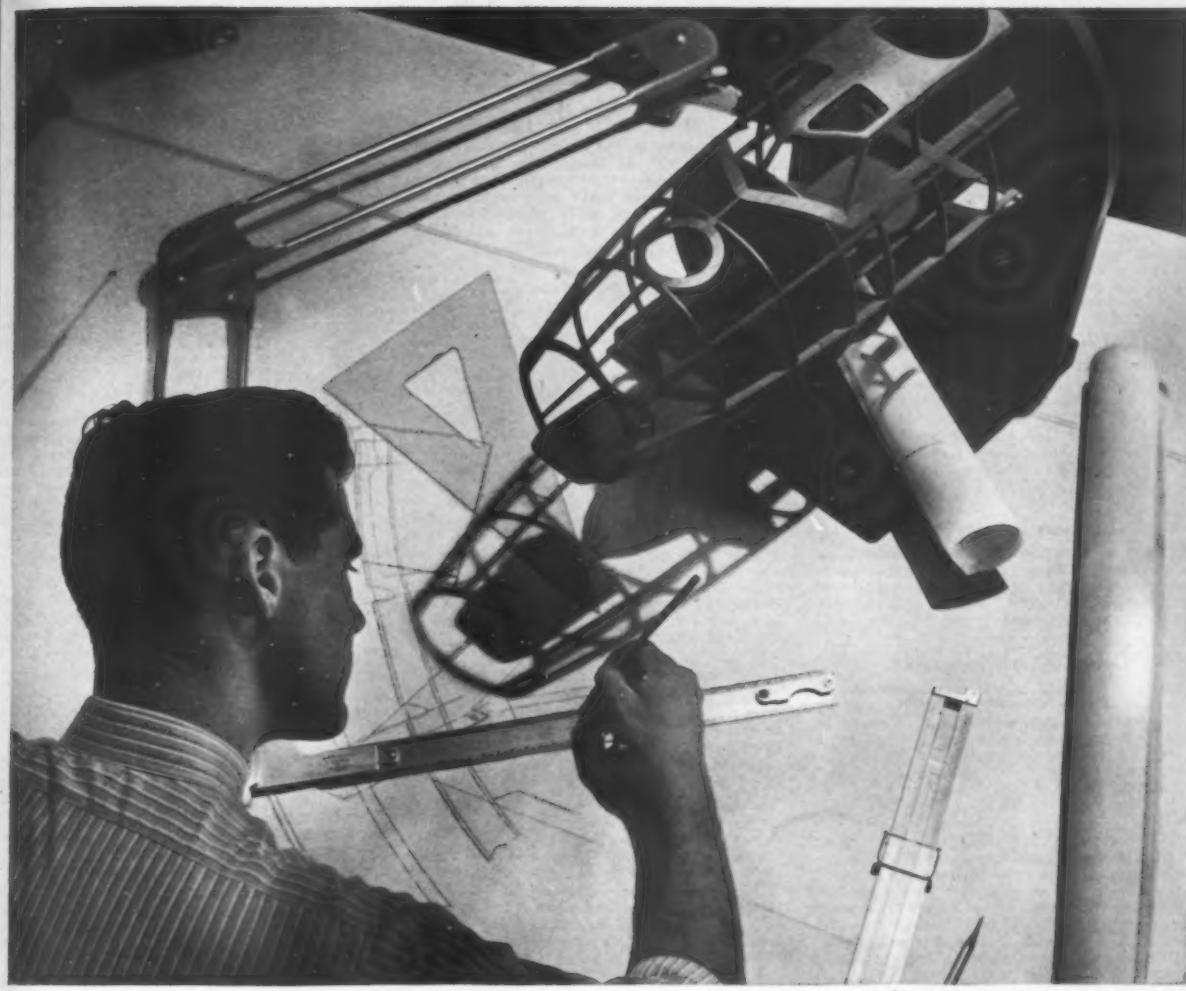
utstand-  
f trans-  
countries  
ies, five  
ft com-  
plication  
over all  
ties and  
ls were  
not be  
steam-  
al years  
ompani-  
operated

freight  
sidiaries  
h it had  
proposed  
n stated  
y which  
tes was  
of New  
steam-  
en New  
es which  
of the

es asked  
ast fort-  
n asking  
Pass to  
(Docket  
amon, in  
ger, ha-  
locking  
without  
directo  
1150)

and wa  
U. S.  
to Africa  
ry above

operations  
date  
system  
ks the  
immediate  
Memph



Back the Attack—With War Bonds

## Prelude to flight

The Flying Fortress\* you read about in today's headlines was once merely a vision in the mind's eye of a Boeing engineer. Before that vision became an airplane lifting into the sky, it passed through numberless stages, each giving it definition, and carrying it one step closer to flight.

The Boeing designer you see above is truing up and rendering with mathematical precision the "doodles" that first gave tentative, exploratory shape to a projected airplane. Skilled cabinet workers next take the designer's blueprint and translate it into a miniature model in three dimensions.

In this stage, tiny seats, control columns, instrument panels, windows and bulkheads are shuffled about to check size, proportions, convenience and workability. Once problems are thus solved in miniature, a full-scale mock-up is constructed for double-checking. Only after this is the proposed airplane ready for construction in metal.

Out of such pre-flight stages the Boeing Flying Fortress, the Stratoliner,\* the transoceanic Clipper, and the Kaydet PT (Primary Trainer) have emerged. They represent, however, only one aspect of the many highly intricate processes involved.

Other problems demand engineering mastery of such fields as electricity, lubrication, heating, tooling, metallurgy, radio, meteorology, air conditioning, hydraulics and a score more.

The Boeing engineering staff, numbering over 3000 and including men of experience in more than 25 distinct fields, is considered one of the ablest groups ever assembled.

Once the war is won, Boeing skills in research, design, engineering and manufacture will bring you many new and worth-while things; and you may know of any product that if it's "Built by Boeing" it's bound to be good.

DESIGNERS OF THE FLYING FORTRESS • THE STRATOLINER • PAN AMERICAN CLIPPERS

\*THE TERMS "FLYING FORTRESS" AND "STRATOLINER" ARE REGISTERED BOEING TRADE-MARKS

**BOEING**

# 44 New Route Applications

(Continued from page 54)

**Caribbean-Atlantic Airlines, Inc.**

Dennis Powelson, president of this company, of P. O. Box 3214, San Juan, Porto Rico filed for an air route to transport persons, property and mail between terminal points San Juan and Ciudad Trujillo, Dominican Republic. The applicant would use multi-engined land craft and expresses a willingness to serve other routes in the area which the Board may deem to be in the public interest. (Docket 1153)

**Checker Taxi Co.**

Located at 10 Gainsboro St., Boston, Mass., this company through its president, Frank Sawyer, has filed for a certificate permitting the company to engage in air-taxi service between Boston and all points in the Continental U. S. The company, which operates 275 taxicabs in the Boston area, proposes to use helicopters. (Docket 1177)

**Landon L. Clevinger**

Landon L. Clevinger, Warsaw and Windsor Sts., Centralia, Wash., has filed for helicopter route for transport of persons, property and mail between Seattle, Wash. and Astoria, Ore. (Docket 1152 and 1165)

**Colonial Airlines, Inc.**

Carrier filed for a circular route beginning and ending at New York City via the intermediate points Pittsburgh, Columbus, Dayton, Detroit, Cleveland and Niagara Falls, N. Y. Applicant proposes to operate the route clockwise and counter-clockwise. (Docket 1179)

**Consolidated Applications**

CAB re-wrote applications of American, Continental, Delta and Eastern to effect a consolidation of hearings affecting proposed routes in the south-central and southeastern part of the U. S. Braniff's docket 503, Chicago and Southern's 587 and Continental's 1126 have been consolidated and five new applications bearing dockets Nos. 1142, 1143, 1144, 1145 and 1146 were created.

**Delta Air Lines**

Applicant filed for an extension of its present route from Fort Worth to New Orleans, via Dallas, Shreveport, Alexandria and Baton Rouge and from New Orleans to Havana, Cuba. This carrier expressed its willingness to serve all other points which the Board might deem as being in the public interest. (Docket 1159)

**Dixie Air Transport Co.**

Applicant of P. O. Box 2212, Baton Rouge, La., filed with CAB an application for a certificate to transport property and mail in pick-up operations covering completely the states of Louisiana, Arkansas and Mississippi with turn around points in Texas, Oklahoma, Alabama and Tennessee. Applicant asked for 11 routes, covering 3,341 miles, and would use New Orleans, Jackson, Miss. and Shreveport, La. as principal terminals. (Docket 1183)

**Eastern Air Lines, Inc.**

Carrier seeks to amend its certificate for Route 5 so as to include as additional intermediate points Asheville, N. C., Roanoke, Lynchburg and Charlottesville, Va. (Docket 1180)

**William E. Hann**

Applicant of 7-141 General Motors Building, Detroit (2), filed for 21 routes in Arizona for transport of persons, property and mail serving the area around Phoenix, Flagstaff, Williams, Ash Fork and Kingman. (Docket 1162)

**Parks Air College, Inc.**

Through Oliver L. Parks, president of the company, filed an application for 35 routes in Iowa, Nebraska, Kansas, Missouri, Oklahoma and Arkansas, for transportation of persons, property and mail. Applicant proposes to engage in airmail and express pick up operations and would carry passengers if the Board permitted. Applicant believes the Beechcraft Model 18-S is the most suitable plane now in production for use in the operations. (Docket 1181)

**Pennsylvania-Central**

This carrier filed an application covering an 8,000-mile network of routes from New Orleans and Miami to many cities in Central and South America and the Caribbean area. (Docket 1155) See page 54 for details.

**Racine Flying Services, Inc.**

Through Carlyle E. Godeke, president and treasurer, of Racine, Wis., filed an application for transport of persons, property and mail for a clockwise route from Racine, Kenosha, Waukegan, Rockford, Beloit, Janesville, Madison, Waukesha, Milwaukee, to Racine. Applicant is now engaged in Wisconsin Training service. (Docket 1156)

**Salt Lake Transit, Inc.**

Applicant with address at 501 1st National Bank Bldg., Salt Lake City, requests nine helicopter routes in the Salt Lake City area for transport of passengers, baggage and express. (Docket 1151)

**Southwestern Air Lines, Inc.**

This company filed for a route from St. Louis to Mexico City for air transport of persons, property and mail. (Docket 118) Earlier this applicant had filed an amendment to its Docket No. 805, asking a route from Houston to St. Louis via several intermediate points.

**Thalhimer Brothers, Inc.**

These department store operators of Richmond, Va., filed for 12 helicopter routes from Richmond to several score cities in Virginia, West Virginia and Tennessee. Company proposes to use the helicopter for delivery of merchandise from roofs of its stores or from areas 500 feet square adjacent to its stores. (Docket 1176)

**United Air Lines**

This carrier filed an application for an amendment to its certificate for Route 11 so as to include Klamath Falls, Ore., as an intermediate point. (Docket 1161)

**United Fruit Lines**

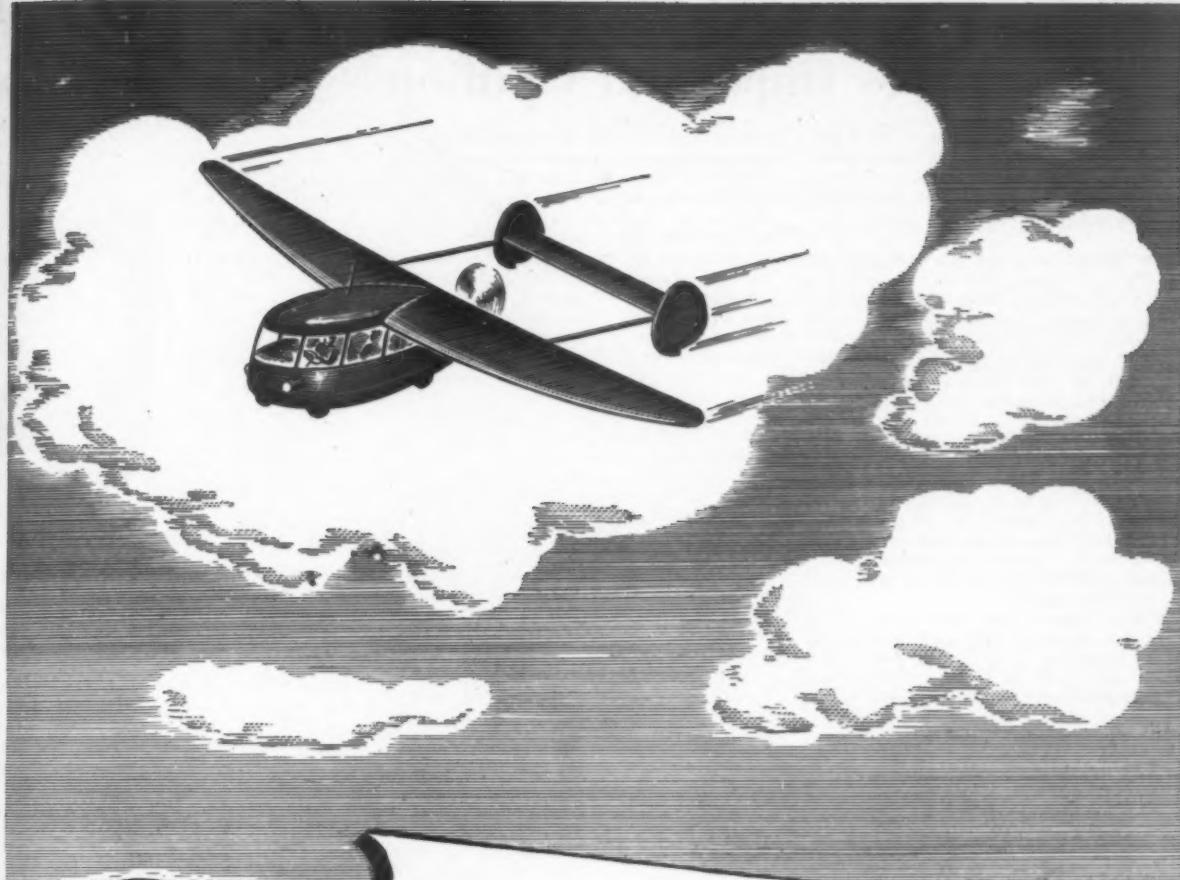
This company, of 1 Federal St., Boston, Mass., asked for three routes, two between New Orleans and Balboa via several intermediate points and between New Orleans and Guatemala City via several intermediate points. (Docket 1148)

**Western Air Lines, Inc.**

This carrier asked a route from Los Angeles to Mexico City, Guatemala, San Jose, Costa Rica, Balboa, Bogota, Colombia, Iquitos, Peru, Cobaya and Santa Cruz, Bolivia, Asuncion, Paraguay with two segments beyond Asuncion to Buenos Aires and Rio de Janeiro respectively and several intermediate points. Another route requested would be from Buenos Aires to Rio de Janeiro, including several other intermediate points, one of which is Montevideo. (Docket 1164)

**Woodley Airways**

Woodley Airways, of Anchorage, Alaska, has filed application asking continuation of suspension of service at Pedro Bay due to lack of airport facilities. The Board had previously suspended service to Nov. 15, 1943. Applicant now operates between Anchorage and Ashik, via intermediate points. (Docket 1141)



## When the Grasshoppers take off their warpaint

Today the Army's grasshoppers (light planes) use radio to direct artillery fire. Tomorrow's light planes — like their big brothers on the air lines — will use radio to guide them on peaceful missions.

For your post-war radio equipment, look to Western Electric — the nation's largest maker of electronic and communications equipment for war!

*To bring Victory sooner, buy War Bonds regularly—all you can!*

**Western Electric**  
ARSENAL OF COMMUNICATIONS EQUIPMENT



# CAB Denies Memphis-Greenville; Ryan Files Important Opinion

**I**N A SPLIT DECISION, the Civil Aeronautics Board last month denied the application of Eastern Air Lines for a route between Memphis and Greenville, via Muscle Shoals, Huntsville and Chattanooga.

The Board's vote on the decision was 4-1, Vice Chairman Edward Warner dissenting and Oswald Ryan writing a separate concurring opinion, urging that small airlines be built up wherever possible.

"While single plane service is preferable, the need for air transportation can be supplied by adequate connecting service where the existing air routes are not extremely circuitous," the majority held. "The saving of distance over existing routes between Memphis and Greenville would be only 72 miles and between Memphis and Chattanooga only 36 miles. The record fails to sustain Eastern's contention that there is a potentially heavy volume of local traffic which would be served by the proposed route. . . .

"While Eastern does not contend that there is a need for additional service between Memphis, Chattanooga and Washington and New York, it is certain that the inauguration of the proposed route would result in competitive service between those points. There is no showing that there is present or potential traffic between Memphis and the eastern points to provide for two profitable operations. . . . It cannot be inferred from the record that American's service between Memphis and Washington and New York is unsatisfactory. . . . The evidence reveals that the need for air travel out of Huntsville is primarily to and from Washington, Baltimore and New York. . . . The Board has afforded an opportunity for temporary service to and from Huntsville by the temporary amendment of Eastern's route 40 and PCA's route 55."

Ryan's separate opinion, which is considered significant as revealing a Board member's attitude on an important industry question, said that he concurred with the majority that no need is established for competitive Memphis-New York service. "I find difficulty, however, in agreeing with the conclusion that there is no need for a direct service between Memphis and Chattanooga, which conclusion appears to be implied in the majority opinion," he said.

In approving Memphis-Greenville for EAL in this proceeding, CAB would be limited to selection of a single carrier for the service, Ryan asserted, adding that there are pending several applications by "other and smaller carriers" proposing Memphis-Chattanooga and other service. "It is my opinion," he said, "that the Board should be free to determine in those proceedings the need for the services which are also involved in the present case since the Board will then have a broader power in the selection of a carrier to perform the service which may be found required by the public convenience and necessity. The present applicant, of course, should be allowed to become an applicant in those proceedings, if it so desires.

"Such a procedural course raises an issue of policy fraught with far-reaching

significance to the development of air transportation in the postwar period:

"Whether the sound national transportation system envisaged by the Civil Aeronautics Act requires a reduction in the present disparity in size existing between the domestic air carriers and whether the smaller carriers should be given the opportunity to gain increased strength and size through the expansion of their route mileage where such expansion will be economically and geographically sound. . . .

"It seems to be a reasonable conclusion from the experience of rail carriers and air carriers alike that any great disparity in size between carriers is not conducive to a balanced transportation system. A small air carrier is likely to suffer certain operating and financial handicaps in competition with large carriers. It has less mileage over which to spread its fixed overhead costs. It often finds the efficient and economic utilization of its aircraft equipment difficult of achievement. It frequently bears the burden of excessive financing costs. The records of the Securities and Exchange Commission, for example, indicate that for enterprises of less than \$1,000,000 capital the cost of common stock flotation during a recent year averaged more than 20% of the proceeds from the stock sales whereas the average cost was only about 9% in the case of enterprises of more than \$10,000,000 capital. If we are to attain a balanced competition in our system of air transportation, the air carriers should be large enough to enable them to obtain their capital requirements on reasonable terms, to permit them to bargain for supplies and services on fairly even terms with their competitors, to allow them to spread their necessary overhead costs over an economical base, and to permit the most efficient and economical utilization of equipment and personnel.

"The attainment of an improved balance in our air transportation system through

## Harry S. Murray Appointed Assistant to T. E. Braniff

Harry S. Murray, War Manpower Commission executive in Chicago, has been named assistant to the president of Braniff Airways. He will be responsible for the functions of the airline's personnel and training departments, with headquarters at Love Field, Dallas, Tex.

Murray brings to Braniff a background in early aviation. During World War I, he learned to fly and was assigned to the aviation branch of the U. S. Signal Corps as a flight instructor. He was a barnstorming pilot in postwar days. Later, he was an insurance adjuster and a regional manager for the Universal Credit Co.



Murray

## Ronald Kinsey Appointed Assistant to President of WAL; Office in Capital

Western Air Lines has named Ronald C. Kinsey as assistant to William A. Coulter, president, in charge of new offices in Washington, D. C. Kinsey was formerly with the Airline War Training Institute's headquarters in the capital, as assistant to its president, Sam Solomon. In this capacity, he was liaison man between the military services and airlines conducting the war training program for student bomber crews. For seven years, he was secretary-treasurer and a director of Gorst Air Transport, Seattle.



Kinsey

the expansion of our smaller air carriers where such expansion is economically and geographically sound, seems to me to merit the serious consideration of this Board. This consideration has influenced my concurrence in the Board's denial of a certificate in the present case, although as previously stated, I have been unable to concur in some of the implications of the majority opinion. I assume that the present applicant may be expected to participate as an applicant in the other pending cases involving part of the service presently proposed and will thus have the opportunity to present its views of the public interest with respect to the policy question here discussed."

In dissenting, Warner said "the majority has erred in giving too little weight to the desirability of creating a through service between Chattanooga and the large cities of the North Atlantic states. . . . Chattanooga is one of less than half a dozen eastern cities with a population of 100,000 or more which has air transport service but lacks a direct one-carrier connection with New York, the source of more than twice as much traffic as any other single point in the U. S."

## PCA Net Capital UP

Net working capital of Pennsylvania Central Airlines totalled \$2,508,430 as of Sept. 30, as compared with \$2,077,476 on December 31, 1942. In the same nine-month period, the ratio of cash to current liabilities increased from .42 to 1.00 to 1.43 to 1.00, it was announced, and the ratio of current assets to current liabilities from 2.71 to 1.00 to 3.46 to 1.00.

Operating revenue for the nine-month period totalled \$2,887,405.56, while operating expenses totalled \$2,348,018.53 and operating income amounted to \$539,387.03 before taxes and reserves, while operating income for the three months ended September 30 amounted to \$288,087.65, these three months being the most profitable for the year to date largely because of the return by the Army of an additional airplane for use in commercial service. Net income for the nine months was \$29,012.57.

# More Hours for Fighting

In pre-Pearl Harbor days, 180 hours of service in the air was the most expected of a fighter aircraft engine between major overhauls. • It's different now—the official time between overhauls has been more than doubled. • However, the Allison engine has shown it can go even beyond that. If need be, it can take 500 hours of combat duty before it has to pause for thorough going-over—enough hours to travel 162,500 miles, or 6½ times around the globe! • In wartime, it is such availability for battle that counts—and we are frankly proud of the Allison's proved capacity for keeping its battle-fitness.

Every Sunday Afternoon — GENERAL MOTORS SYMPHONY OF THE AIR — NBC Network

POWERED BY  
ALLISON  
P-38—Lightning  
P-39—Airacobra  
P-40—Warhawk  
A-36 and P-51—Mustang

LIQUID-COOLED AIRCRAFT ENGINES

**Allison**  
DIVISION OF



KEEP AMERICA STRONG  
BUY MORE WAR BONDS

# CAB Proposes Cut in Colonial's Mail Pay From 60c to 21.6c

ALTHOUGH USING a new base period for its computations, the Civil Aeronautics Board, in a new opinion filed last month, re-affirmed its findings and conclusions of Dec. 29, 1942, when it ordered the mail pay of Colonial Airlines Inc. reduced from 60 cents to 21.61 cents per airplane mile. The reduced rate of compensation is effective as of Dec. 1, 1942.

CAB in its latest opinion used the base period from Feb. 1 to Aug. 31, 1943 for its computation of the carrier's operating expenses and net revenue earnings. In an accompanying order, the Board required the carrier to show cause why its findings should not be made final.

Colonial under date of Feb. 2, 1943, filed a petition for a redetermination of the rate. The petition is accordingly denied.

CAB found that the carrier's non-mail revenues for the new base period amounted to \$463,543.71 resulting in a loss before mail pay of \$77,623.69. Mail revenue reported during this period amounted to \$81,085.12 with the result that the reported net operating income amounted to \$3,461.43. However, the opinion stated, certain adjustments of the reported data appear appropriate.

The Board in making several adjustments of reported expenses, eliminated entirely a sum of \$540 per month which the carrier is paying the Canadian Air Express, Ltd. for service in connection with its Canadian operations. This was done, the opinion stated, when a member of the Board's auditing staff was not able

to secure an explanation of what was covered by this payment.

Further, the Board called attention to the carrier's maintenance costs in the following language:

"Compared with other air carriers, petitioner's maintenance superintendence cost is very high in relation to its direct labor costs. During the six months' period ended June 30, 1943, the maintenance superintendence cost of petitioner was 100% of its direct labor cost, while for the industry it represented only 25% of the direct labor cost, and the highest percentage experienced by any carrier in the group was 44.6%. The very large difference between petitioner's maintenance superintendence cost in relation to its direct labor from that experienced by the industry leads to the conclusion that petitioner should reduce this cost in line with the costs of other carriers. It appears that 45% of its direct labor costs represents an adequate allowance and adjustment has been made to reduce the maintenance superintendence cost to this amount."

The carrier estimated its general and administrative expense would amount to \$136,845 annually or 21.11 cents per revenue mile. The Board in the previous opinion allowed \$60,444 or 9.32 cents per revenue mile for this phase of the carrier's expense.

"Notwithstanding our findings in that case, petitioner has continued to incur comparatively large sums for this group of expenses," the Board's opinion con-

## Former Secretary of State of Texas Gets Braniff Job

William J. Lawson, former Texas secretary of state, has been appointed spe-

cial representative for Braniff Airways. With headquarters at Braniff's Dallas, Tex., base, Lawson will spend the greater part of his time traveling among those cities not now being served by Braniff but which cities are located on routes proposed by the airline. Lawson a

former newspaper publisher, has been practicing law in Austin since his retirement as secretary of state in February of this year.

tinued. "During the base period this group of expenses amounted to \$64,738, or at the annual rate of \$110,980. Examination of the number of officers employed by petitioner and their salaries and expenses reveals that petitioner apparently has developed and is maintaining a large supervisory staff in anticipation of a large expansion of its operations. It further appears that a large portion of these costs are probably attributable to activities undertaken to realize the anticipated expansion. Giving consideration to the volume of petitioner's operations and the relationship of its general and administrative expense to that of the other domestic air carriers, it is concluded that petitioner's general and administrative expense should not exceed \$35,000 per annum, or 12.63 cents per revenue mile.

"The above described adjustments are applied to the reported expenses to obtain an adjusted operating statement . . . of \$422,614.24, or 107.63 cents per revenue mile and its adjusted operating income amounts to \$44,390.90, or 11.30 cents per revenue mile.

"Petitioner realized profits from sale of equipment to the government totaling \$106,052.71 which, for reasons set forth in the prior opinion, will not be included in the investment for rate-making purposes," the opinion stated. Of this profit \$25,390.53 has been eliminated from petitioner's flight equipment; the remaining \$80,662.18 has been eliminated from working capital.

"After making adjustments and prorations to the Army operation . . . petitioner's investment assignable to its scheduled air transport operations amounts to \$451,580.81," the opinion stated.

The Board concluded that on the basis of estimates for the forthcoming year, petitioner will realize a loss before mail pay of \$72,219. At the present rate of mail compensation, mail revenue will amount to \$136,150 and the operating profit for the forthcoming year will amount to \$63,931. This profit, the opinion states, equals 14.2% of the recognized investment of \$451,580.81 before provision for Federal income taxes, and 8.5% after provision for income taxes at 40%. This return represents approximately the rate of net earnings which we have concluded should be realized during the war in previous rate cases, the opinion stated.

### Attend New York Navigators' Meeting



Chief navigators of foreign operating air carriers and representatives of associations of air navigators meet at Hotel New Yorker to discuss proposals for standard license requirements. Left to right, bottom—J. M. Robinson, Sr., Navigator, Pan American Airways, Inc., Atlantic Division; W. A. Bey, Navigator, Transcontinental & Western Air, Inc.; C. H. McIntosh, Chief Navigator, American Airlines, Inc.; H. C. Thomasson, Sr. Navigator, American Export Airlines, Inc.; R. H. Ellerberger, Sr. Navigator, Pan American Airways, Inc., Atlantic Division; J. H. Blackburn, President, Airline Navigators Association (TWA).

Left to right, middle—J. W. Kroupa, Sr. Navigator, Pan American Airways, Inc., Atlantic Division; W. L. Danielson, Sr. Navigator, American Export Airlines, Inc.; K. Coughlin, Chief Navigator, Conairway Division, Consolidated Vultee Aircraft Corporation; E. T. Bolton, Assistant Chief Navigator, Transcontinental & Western Air, Inc., Inter-Continental Division; J. R. Voeth, Navigator, Conairway Division, Consolidated Vultee Aircraft Corporation.

Left to right, top—J. W. Robertson, Sr. Navigator (A.O.), Pan American Airways Navigators Association; Frank T. Reese, President, Aviators' (correct) Association (AAL); P. H. Redpath, Chief Navigator, Transcontinental & Western Air, Inc., Intercontinental Division; R. D. Fraser, Assistant Chief Navigator, American Airlines, Inc.; and A. W. Lapine, Supervisor of Navigators, Eastern Airlines, Inc.



For almost three years Kelletts have been used on border patrol, covering up to 400 miles a day. A two-man team in a Kellett patrols a larger area more thoroughly than many men and much valuable equipment could do in any other way.

## PIONEERING NEVER STOPS ...not even for war!

Researching—engineering—and the commercial production of rotary wing aircraft have been Kellett's prime activities for over fourteen years. Tremendous strides have been made—and our work goes on, with efforts redoubled. Today, Kelletts are "earmarked" for the U.S.A. A.F. We can't give you the details now, but keep Kellett rotary wing aircraft in mind when you think of the future.

While we're cooperating with the Army in speeding the development of rotary wing aircraft, we're also supplying vital parts for many of our nation's best

bombers and fighters . . . important work that requires highest skill and aircraft manufacturing "know how."

Kellett is looking forward to the time when this skill and experience can be turned to peacetime benefits . . . to provide you with Kelletts to cut time and costs in patrolling electric power lines, oil pipe lines, in transporting mail and passengers, dusting crops, and for other services to industry, commerce, forestry and agriculture. Kellett Aircraft Corporation, Upper Darby (Philadelphia), Pennsylvania.



A Kellett rotary wing ship accompanied Admiral Byrd on his voyage to the South Pole.



Eastern Air Line's Kellett flew mail for a full year from Philadelphia's Post Office roof.



Kellett looks forward enthusiastically to a future of expanding service to the nation.

**K E L L E T T**

OLDEST ROTARY WING AIRCRAFT MANUFACTURING COMPANY

# Program of Air Mail Promotion Recommended as P.O. Function

BASED ON ITS EXPERIENCE in developing the airmail pick-up operations, All American Aviation, Inc., through Harry R. Stringer, vice president in charge of traffic, recommends that the Post Office



Stringer

Department engage in promotional work in order to increase airmail patronage. Stringer believes such promotional work should go hand in hand with any program which the government may inaugurate for extension of the airmail pick-up system. He

feels the operators should either be allowed definite sums to carry on the promotional work or the government should do the job on its own accord. "From an economic standpoint, pickup operations must be largely justified by the airmail traffic," Stringer stated. "Recognizing this fact, All American, since it began its operations, has constantly promoted the use of airmail in the communities along its routes. The opportunities for developing airmail patronage are boundless. People patronize the airmail because it offers superior means of communication and like every other public service, patronage increases as public knowledge of its value spreads," he added.

Stringer believes this promotional work is the logical function of the Post Office Department.

"Unfortunately Congress has not provided the Department with funds for this

purpose. In Canada, Parliament annually appropriates funds to purchase space in newspapers and magazines to advertise the airmail service but our Congress has never accepted this idea," he explained.

Stringer believes that All American's mail pickup operations are paying a sizeable return to the government each month because his company took upon itself to promote airmail service in the communities served by its operations. He points out that increasing the volume of express carried would have no appreciable effect in reducing the company's compensation.

"For example," he said, "monthly mail loads are now in the neighborhood of 50,000 pounds. If express loads equalled this figure, the income would have the effect of reducing the mail rate by not more than three cents a mile on the basis of the present income from this source. On the other hand, the Post Office Department derives an average of \$1.78 per pound from airmail according to the figures of the Cost Ascertainment Division of the department.

"This contrast makes it quite evident that the government profits immeasurably more through the development of an additional pound of airmail than it does when the carrier develops an additional pound of air express; and in air pick-up operations, which are confined to the transportation of mail and property, it would appear to be a sound policy for both the carrier and the government to concentrate on the development of airmail rather than other traffic as the most effective and quickest means of recapturing to the government expenditures to maintain the service."

## Claim Airlines Will Have Pick of Pilots After War

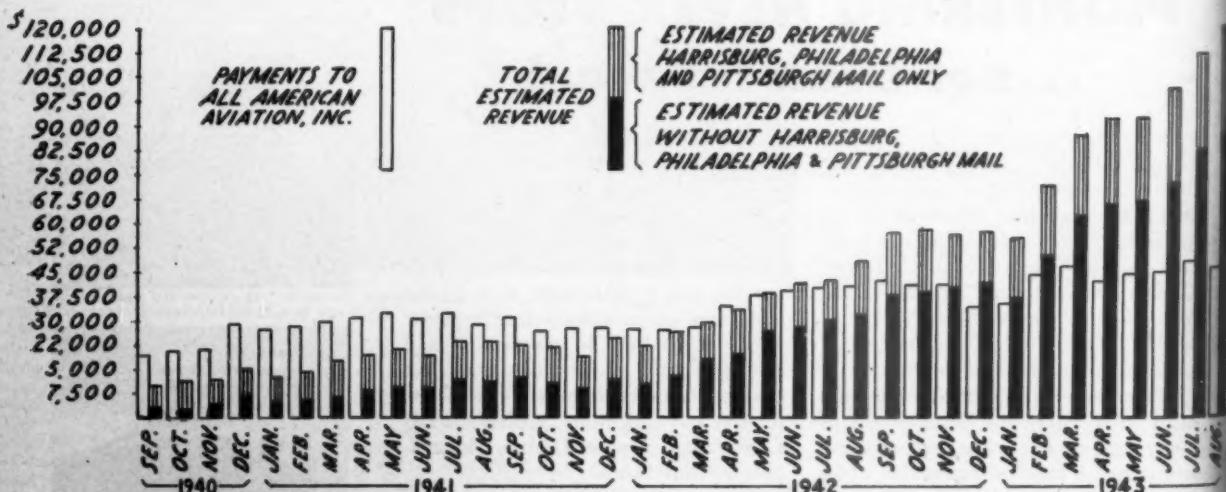
There will never be a shortage of good pilots after the war and commercial operators will be able to pick the best, it was agreed when representatives of the American, British and Canadian airline pilots' associations met in Washington last fortnight for the second time since international "affiliation" of the three groups. Any other policy than selection of the best fliers, they agreed, would be detrimental to safety standards and would not be good public or business policy.

Representing more than 20 airlines and 5,000 pilots at the conference were Capt. David L. Behncke of Chicago, full time president of the American Airline Pilots Association; Capt. J. W. G. James and Capt. Richard Allen of British Overseas Airways; Capt. R. E. Hadfield of Trans-Canada, president of the Canadian association; and John M. Dickerman, manager of the American Pilots' Association Washington office.

Special study is now being given by the affiliated groups to the effect of the return of military pilots and flight personnel after the war. It was emphasized that the transport industry recognizes a considerable difference in the type of skill and techniques required in military and commercial flying, but that a large number of military fliers are expected to be absorbed.

Among other problems discussed were certification standards, salvage of aircraft and rescue of persons at sea, trans-ocean navigation, clearance, dispatching etc., of international aircraft.

UNITED AIR LINES airmail loads soared to an all-time high in October. United flew 1,017,518 mail ton-miles as against 857,712 mail ton-miles in September and 743,301 mail ton-miles in October, 1942. Express ton-miles increased 1% over September, 1943, but fell 10% below the total for October, 1942.



Monthly comparison of estimated revenue to Post Office Department from pieces of airmail dispatched over the Air Pick-up system with payments made by the Department to the carrier since the beginning of the service through last August. Average revenue per piece of airmail: 7.4 cents for September, 1940, through June, 1941; 7.21 cents for July, 1941, through August, 1943.

of good  
ial op-  
est, it  
of the  
airline  
ington  
e since  
three  
lection  
uld be  
s and  
business

es and  
e Capt.  
ll time  
Pilots  
es and  
versus  
Trans-  
an asso-  
man-  
ciation

ven by  
of the  
nt per-  
empha-  
recog-  
in the  
ired in  
ut that  
re ex-

l were  
f air-  
trans-  
tching.

scored  
ed new  
837,713  
01 mall  
a too  
43, but  
, 1943.

for the  
last  
July.

943



## Attack on Ploesti

August 2nd, 1943. In the early dawn of that day, 177 Liberators took off from a newly-won airfield in North Africa. Target: the oil refineries of Ploesti, Rumania. Distance: round trip, 2000 miles. Ploesti was pouring into Germany fuel for its war machine. To knock it out would cut a vital artery of the enemy.

Knocked out it was! Even though our bombers had to fight their way over hundreds of miles of enemy territory. Even though they had to go through murderous ground fire—coming in as low as 100 feet to make sure of each target assigned. Meticulous preparation, distance flown, defenses penetrated, results

achieved, marked the attack on Ploesti as one of the epic flights of the war.

Skill in flying by instruments is a vital part of the training which makes such perilous flying missions successful. All our pilots receive instruction in the Link Trainer, which is used to teach not only instrument flying, but also navigation and bombing. This training adds weight to the air offensive, conserves lives and planes.

Aviation looks to Link for creative engineering, for high standards of manufacture. Look for the name **LINK** on precision products after the war is won. **LINK AVIATION DEVICES, INC.**, Binghamton, N. Y.—Link Trainers, Aviation Sextants, Collimators and other products contributing to the safety of flight.



# Rumors you can circulate!

THOSE ARE  
MARVELOUS  
GLIDERS  
GENERAL  
AIRCRAFT  
BUILDS FOR THE  
ARMY AIR FORCE.

YOU CAN SAY THAT  
AGAIN! BUT HAVE  
YOU HEARD ABOUT  
**GENERAL AIRCRAFT'S TWO NEW**  
**SKYFARERS?** IN SAFETY  
AND SPEED THEY WILL  
REVOLUTIONIZE POST-  
WAR PRIVATE FLYING.  
ONE IS ROADABLE,  
TOO\*



★To hear more about it, write to...

The General Aircraft Corporation, Long Island City (5) N. Y.

Licensor to the industry of two-control airplanes under patents to Weick and to Koppen

## Intra-Company Profit Diversion Argued In PAA Alaska Hearing

The question of whether an air carrier should be able to recoup losses in one division of its operations while having made what the Civil Aeronautics Board termed was an excessive profit in its other fields of operation was argued again recently in the Pan American Pacific-Alaska rate case.

In its show cause order, the Board had decided that while the company's need for mail pay amounted to \$2,053,894 for its Pacific-Alaska operations, no mail pay would be allowed because of the earnings of the other divisions, which Public Counsel Robert W. Oliver asserted were 15.3% during the review period.

Henry J. Friendly, counsel for Pan American, reviewed for the Board the history of air transport operations in Alaska. He pointed out that much of the development work had been done because high government officials recognized the importance of an air transport system in Alaska to the nation's security. He said that because of the very nature of the experimental operations, it had been almost impossible for Pan American or its predecessor companies in Alaska to frame a rate petition. Hence he felt the Board should not stand on the precedent in the Braniff case where it ruled it would not "go back of the date of the filing of the petition in deciding upon the review period.

The development in Alaska involved a very large expenditure of the moneys of Pan American stockholders—without any possible hope of return. The request here is merely that Pan American be permitted to recoup out of future commercial revenues amounts expended in good faith in bringing about a development of really great importance to the commerce and postal service of the United States and above all to the national defense," Friendly told the Board.

Public Counsel contended that Pan American "went into Alaska" in accordance with a policy to acquire the doorsteps to international routes, all for the purpose of staving off competition.

"The 'securing of a position' in Alaska, as one of the company's officials described it, has cost a lot of money because they have been sitting in that position so long. And now the company doesn't want to pay the bill itself," Oliver contended.

Oliver charged that it never occurred to Pan American to treat Alaska deficits as capitalized development expense until it found out sometime in 1935, when it was preparing income tax returns for 1934, that consolidated returns were no longer allowed and therefore it no longer could offset the Alaska operating losses against the profits in Latin America for tax purposes.

"The issue narrows down to the one service—the Seattle-Juneau service," Oliver argued. "As Pan American was realizing the excess earnings of \$5,805,000 in Latin America and \$1,605,000 on the Atlantic—the plain and unequivocal language of section 406 (b) of the Act put it well on notice that such excess earnings would have to be taken into account before it was entitled to any subsidy in Alaska from the taxpayers' money."

Friendly asked of the Board the same relative consideration which he claimed was being given to other carriers, including Panagra, with reference to building up reserves for postwar operations. He claimed some of the domestic carriers, including those who were preparing to give Pan American competition in the foreign field, were being permitted a return as high as 24½% after taxes while his company was being held to a much lower rate. He said his company would go into the postwar period in a relatively weaker position than most of the other carriers if the Board adhered to its position in the Pacific-Alaska rate case.

## Panair do Brasil Sells Stock

Capital of Panair do Brasil, S. A., wholly owned subsidiary of Pan American Airways, operating in Brazil, has been raised from a nominal figure to a stated amount of \$4,000,000, and the company plans to sell a 40% interest to Brazilian nationals. It is expected a number of prominent Brazilians will subscribe to the stock offering, and that the balance will be offered to the general public through the Banco do Brasil. Pan American will retain the 60% balance, but Brazilians probably will have a majority representation on the new board of directors, the company announces.

AMERICAN AIRLINES planes flew 38,293,830 revenue passenger miles in October, an increase of 12.1% over October, 1942. Passenger load factor was 91%, compared with 78.2% in October last year. Express carried totaled 1,822,401 lbs., compared with 1,350,035 lbs. in the same month of 1942, with an increase of 26.3% in pound miles flown last month over the same month last year. Airmail pounds carried in October were 62% more than in the same month in 1942, and airmail pound miles flown were 63.4% above the same month last year.

## C & S Offers 60,000 Shares of Common At \$12.50 Each

Chicago and Southern Air Lines, Inc., has filed with the Securities and Exchange Commission an amendment to its registration statement in which it quotes the offering price on the voting trust certificates for 60,000 shares of common stock to be sold to the public, at \$12.50 per share. Proceeds from the sale will be used for the purchase of new equipment to be used on present or proposed new routes, reduction of bank loans, and for working capital.

Underwriters, with amounts underwritten, follow:

Keppon, McCormick & Co., Chicago, and I. M. Simon & Co., St. Louis, 17,500 shares each; Hornblower & Weeks, New York, and Courts & Co., Atlanta, 7,500 shares each; Milwaukee Co., Milwaukee, 5,000 shares; Equitable Securities Corp., Nashville, and Reynolds & Co., New York, 2,500 shares each.

NORTHWEST AIRLINES planes carried war supplies a total of 96,973,821 express pound miles during October, a new all-time record for the company. The total represents the third straight monthly increase and exceeds the record September total by more than 4,000,000 pound miles. Cargo for the month totaled 147,558 express pounds.

BRANIFF AIRWAYS carried more than twice as much mail and express over its routes in the three months ended September 30 as was carried in the corresponding period of 1942, the company reports. A total of 1,475,890 lbs. of mail was carried in July, August and September as against 685,642 lbs. during the third quarter of last year. Express carried showed an increase of 102.70%. Revenue passenger miles during the period totaled 64.08% more than in the third quarter of 1942.

### Win Promotions with Western Air Lines



Newly promoted passenger service officers of WAL are—seated, left to right: Bill Kerrigan, assistant superintendent of passenger service, and Russell J. Smith, superintendent of passenger service; standing, left to right: Phil Pierce, chief passenger agent; Charles Coddington, assistant superintendent of passenger service in charge of training personnel; Letch Seamens, district superintendent of passenger service for Los Angeles; and Bill Johnson, chief passenger agent for Los Angeles.

## New Financing Plan Will Be Offered to UAL Stockholders

United Air Lines Transport Corp. has filed with the Securities and Exchange Commission in Philadelphia notice of a special meeting of stockholders to consider a new financing plan. The meeting is planned for Dec. 22 at Chicago.

Stockholders will be asked to consider and act upon a proposal recommended by the company's board of directors to amend the certificate of incorporation by changing the name of the corporation to United Air Lines, Inc., and to change the provisions relating to capital stock in order, among other things, to authorize 200,000 shares of cumulative preferred stock, W. A. Patterson, president, explained. Of this amount, the corporation would plan presently to issue 105,032 shares in the form of a convertible series which would be offered to holders of the common stock in the ratio of seven shares for each 100 shares of common stock held, he added.

It is expected that this offering will be underwritten by responsible investment bankers, and discussions are being held with Harriman Ripley & Co., Inc., which, it is expected, will head the underwriting group, Patterson said.

The corporation has no present intention of issuing the balance of the cumulative preferred stock which would be authorized, nor has it any intention at the present time of issuing any additional common, he emphasized.

## Economic Value of Cargo Services All-Important, TWA Executive Declares

The economic value of services performed, rather than the character of commodities to be moved, will be the chief factor in developing air cargo, it was declared by Louis Inwood, executive assistant to E. Lee Talman, executive vice president of Transcontinental & Western Air, Inc., in a recent address before the Junior Traffic Club of Chicago.

As an example of economic value applying to bulk cargo, he cited recent delivery of a 1½-ton forging needed to repair construction machinery on which a contractor was losing \$1,500 a day because of a breakdown. "A few days saving of transportation time at \$1,500 a day can and will absorb the relatively high tariff which exceeded the intrinsic value of the shipment," he said.

Objecting to proposals for integration of domestic transportation systems or for monopoly in international air transport, Inwood said: "There seems to be two schools of thought: One, the Vivisectionist who would like to divide up the air transportation body while it is still warm and give it to all of the other carriers in the U. S.; the other, the Embalming School of thought who would prefer to bury it in a consolidated and integrated system of transportation where it could in Zombie fashion, serve as an auxiliary agent to other forms."

"We believe air transportation in the hands of surface transportation companies would never fully develop. Rail-

## Converted Military Planes Should Be Bought 'With Care', E. C. Wells Warns

Military aircraft should be converted to commercial operations to provide equipment for the period of transition from war to peace. However, with competition from new equipment "a certainty within one or two years after the war," airlines should establish "with care" their policies with regard to purchase, conversion, and depreciation of "transition-type" aircraft.

E. C. Wells of Boeing Aircraft Co. gave airline operators this advice in an address at the recent Air Cargo meeting of the SAE in Chicago.

Military transport planes may be reconverted with relatively minor changes, and military cargo carriers, while high-performance machines, could be made to serve, but conversion of combat planes would be "costly, difficult, and require reconciliation of performance with civil air regulations," Wells said.

"A modern airplane specifically designed for economical operation, and incorporating design features and equipment dictated by the most up-to-date practice can compete on a cost basis with reconverted transports," he warned. "This is true even when all depreciation expenses are eliminated, the cost of conversion is neglected, and no structural strength limitations are considered for the reconverted transports."

He asserted that the airplane is a "specialized piece of equipment and simply increasing operating weights will not produce magic."

"The fuselage will prove inadequate for greater payloads if a large part of the payload is used for passengers, though this limitation can be avoided to some degree in an all-cargo carrier," he added.

In summarizing the prospect of conversion of military planes to commercial types, Wells pointed out that military aircraft tend to have relatively high wing loadings, and compliance with the stall-speed requirements will affect the allowable operating weight for these types to a greater degree than for the re-converted transport types.

"The necessity for major redesign of combat types involves a large expense and time delay," he said. "Since the converted airplanes can serve the airlines efficiently for only one or two years, any conversion is of major significance. The 'battle scars' of bombers would necessitate elaborate inspection, repair, and replacement before the planes would be fit for operation as public carriers. These costs as well as the cost of conversion of the fuselage, replacement of bullet-proof fuel tanks, etc., would have to be borne by the operator. Thus, they could not under the most optimistic conditions, approach the 'no depreciation' costs shown for the re-converted transport types."

roads, steamships and bus companies do not and should not intend to abandon the surface transportation field . . . Their relative investment in surface operations would always be substantially greater than their investments in air transportation and would correspondingly be protected to the detriment of air development."

## WAL Mail Pay Cut To 0.3 Mill by CAB

Affirming its earlier findings, the Civil Aeronautics Board, in a 2-1 decision, ordered the mail pay of Western Air Lines, Inc. reduced to 0.3 mill per pound mile, effective Jan. 1, 1943. The Board in its latest opinion, used the base period from Jan. 1 to June 30, 1943 while in its show cause order of Dec. 21, 1942 the review period was from June 12, 1942 to Dec. 31, 1942.

The rate is intended on an investment by the carrier of \$1,032,694 as allocable to scheduled transport operations and \$116,694 as allocable to the respondent's investment for mail service, based on an estimated annual total of 1,034,111,993 mail pound miles.

On the basis of the Board's latest opinion, the carrier's annual mail revenue for the future is estimated \$310,234. Added to the profit to be derived from commercial revenues at present rates, the Board finds that the carrier will realize profits from its regular scheduled operations amounting to \$362,149 before Federal taxes.

"It should be noted," the opinion stated, "that the Revenue Act of 1942 approved Oct. 21, 1942 provides that corporations are subject to a tax of 90% of that portion of their net income that is defined as "excess profits net income" and 40% of the remainder. The revenue code includes an exemption provision insofar as air carriers, subject to the Civil Aeronautics Act, are concerned. However due to the complexities of the law and uncertainties regarding earnings from Army services, the question of whether or not the excess profits tax will be applicable cannot be ascertained at this time."

Chairman Pogue and Josh Lee contributed the majority vote. In connection with his dissenting vote, Oswald Ryan stated:

"I disagree with the majority in their determination that 0.3 mill per pound mile is a fair and reasonable service mail rate for Western, because this rate, in my judgment, contains an unjustified element of government subsidy which produces excessive earnings on the investment in the mail service."

According to the estimate contained in the majority opinion Western will realize a net profit on that portion of its investment allocated to the mail service of 63.31 percent after Federal income taxes at 40 percent. A net profit of 21.04 percent on its overall commercial and mail services will be earned by this carrier after 40 percent Federal income taxes.

## Shell Opens New Plant

Shell Oil Company's new Catalytic Cracking Plant, first of its type to be started and completed in America since Pearl Harbor, went into operation at Wilmington, Calif., last fortnight, geared to produce enough 100-octane gas each day to fly 250 bombers over Berlin. The plant is part of a 20 million dollar project covering more than 30 acres. Towering 240 feet, the unit was completed in record time by a crew of 1,000 men. Two hundred men will be required to operate the plant.

Cut  
CAB

the Civil  
decision,  
stern Air  
per pound  
the Board  
use period  
while in its  
1942 the  
12, 1941

an investi-  
94 as a  
operation  
respon-  
ce, based  
1,034,111.

test opa-  
venue for  
l. Added  
commer-  
the Board  
ze profits  
operation  
Federal

on stated  
approved  
corporations  
that part  
s defined  
and 40%  
code in  
insofar  
Civil Aer-  
Howeve  
law and  
gs from  
whether  
ll be ap-  
at this

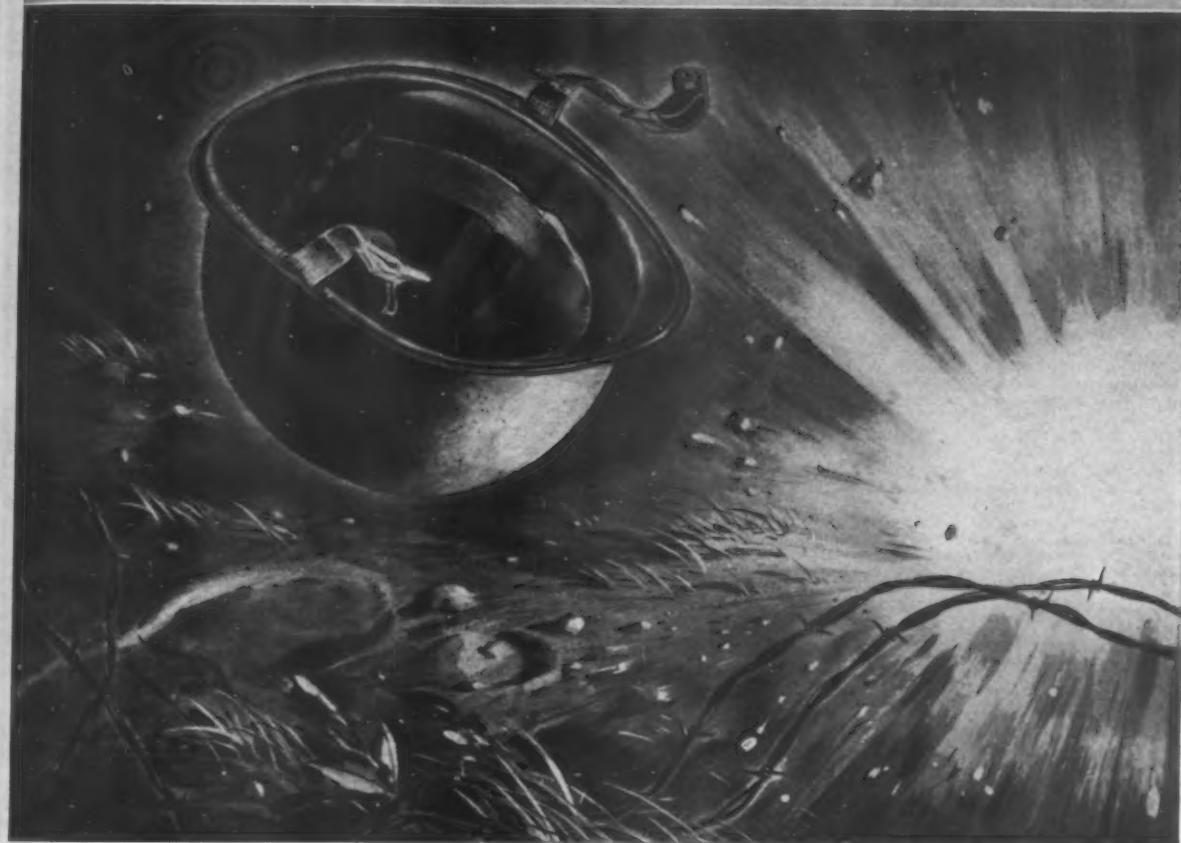
Lee con-  
conne-  
Oswald

in their  
per pound  
the service  
this rate  
injustified  
y which  
the in-

tained in  
will real-  
on of in  
1 service  
income  
profit of  
commercial  
l by this  
income

Catalytic  
e to be  
ca since  
ation a  
, geared  
gas each  
in. The  
er projec  
owering  
in rec  
n. Two  
operat

## A war can last one minute too long...



A man can get killed just as dead on the last day, the last hour, the last minute of the war as he can at any other time.

If American troops are delayed in their advance because we at home fail to produce the supplies they need on time, then we are guilty of prolonging the war, lengthening the casualty lists.

The great majority of American industrial workers, owners and managers realize this grim fact. They are working night and day to win the war and win it as quickly as possible. They do not want this war to last "a minute too long" for

a son, brother, husband, sweetheart or friend.

The point for all of us to remember is this: Even when the newspapers tell us of new Allied victories on the fighting fronts *we must not slacken our pace on the home front*. We must do all in our power to shorten the war, to save lives.

### ETHYL CORPORATION

Chrysler Building, New York City

Our war job is manufacturing Ethyl fluid for improving the antiknock quality of fighting gasolines — *and delivering it on time*. Ethyl workers have been awarded the Army-Navy "E" for "outstanding achievement in producing war equipment."



**CAB Orders Affecting Air Carriers**

Nov. 6 to 20

**ORDER NO. 2493, DOCKET 624:** Amended certificate of public convenience and necessity issued to Transcontinental & Western Air, Inc. to include Lancaster, Pa., as an intermediate point between the intermediate points Reading and Harrisburg, Pa. on route No. 2.

**ORDER NO. 2494, DOCKET 423:** Denied application of Eastern Air Lines, Inc. for a certificate of public convenience and necessity to provide air transportation between Memphis, Tenn. and Greenville, S. C. (Opinion and Order)

**ORDER NO. 2503:** Instituted proceeding (Docket 1142) to determine whether Birmingham, Ala., be named as an intermediate point on any route which may be certificated between Atlanta, Ga., and Memphis, Tenn., and that the City of Birmingham be made a party to this proceeding; severed and assigned dockets in the matter of the applications of various airlines re. certificates of public convenience and necessity over certain routes.

**ORDER NO. 2506, DOCKETS 519 ET AL:** Granted permission to American Airlines, Inc., Wilson McCarthy and Henry Swan, trustees for the Denver and Rio Grande Western Railroad Co., and the Rio Grande Motor Way, Inc., to intervene in the matter of the applications of certain airlines re. certificates of public convenience and necessity.

**ORDER NO. 2507, DOCKET 1106:** Denied motion of Western Air Lines, Inc. to withhold from public disclosure stock purchase agreement filed in connection with their application to acquire control of Inland Air Lines, Inc. (Docket No. 1106)

**ORDER NO. 2508, DOCKETS 519, 582, 1028, 1040, 1131:** Consolidated applications of various airlines for certificates and amendments of certificates of public convenience and necessity under Sec. 401 of the Civil Aeronautics Act of 1938.

**ORDER NO. 2516:** (Not yet released.)

**ORDER NO. 2517, DOCKETS 778, 783, 788, 789, 791, 794, 797:** Extended effective period of the temporary permits held by Royal Dutch Air Lines (KLM) and Expresso Aero Inter-American, S. A., for temporary air transportation in the Caribbean Area.

**ORDER NO. 2518, DOCKET 842:** Directed Colonial Airlines, Inc. to show cause why findings and conclusions should not be made final in the matter of the compensation for mail transportation over F.A.M. Route 1 and upon the basis thereof enter an order denying respondents petition filed Feb. 2, 1943.

**ORDER NO. 2519:** Prescribed Amendment No. 6 embodying uniform system of accounts for domestic carriers.

**ORDER NO. 2528:** Fixed the fair and reasonable rate for transport of mail over Western Air Lines, Inc. Routes 13, 19 and 52, as 0.3 mill per pound.

**ORDER NO. 2529:** Authorized American Airlines, Inc. to include Akron, Ohio as intermediate point between Cleveland and Columbus.

**ORDER NO. 2531, DOCKET 1106:** Denied Chicago, Black Hills & Western permission to intervene in Western Air Lines application for acquisition of control of Inland Airlines.

**ORDER NO. 2532:** Permitted TWA to inaugurate immediately a non-stop service between Los Angeles and San Francisco of cargo only.

## Sheppard Supports Sixteen Airlines

Siding with the stand of the 16 domestic airlines for competition in postwar international air transportation, Rep. Harry R. Sheppard (D., Calif.) predicted in a short speech before the House during the fortnight that the "attempt on the part of Juan Trippe . . . to foster an air transport cartel is doomed to defeat . . . and should be."

"Mr. Trippe's monopolistic approach means less jobs, fewer opportunities, and a continuation of the same sort of 'under-cover diplomacy' which has characterized his company's activities in the past," Sheppard declared.

The aviation industry, he contended, would not be able to fulfill its responsibility to 3,000,000 returning soldiers, sailors and marines now engaged in military aerial warfare if a monopoly on foreign air commerce is perpetuated after this war.

Sheppard portrayed the clear-cut issue between the positions taken by United Air Lines and Pan American Airways, on the one hand, and the 16 domestic lines on the other hand, as "monopoly versus competition."

"The American people have never willingly nor wittingly sanctioned any monopoly," he said. "I cannot conceive of their representatives in Congress betraying a tradition of freedom that has existed since the foundation of the Nation. The air is our last frontier, and the word 'monopoly' never had a place in our frontiers of the past, and must not now."

Sheppard made the following points to the House:

(1) All 16 of the domestic airlines do not expect to be granted the privilege of flying abroad as soon as the war is over. Some are totally uninterested. They do, however, want the "right" to be able to compete for foreign service.

(2) The U. S., served by 17 domestic airlines, covers roughly about one-seventeenth of the world's land surface, and has roughly about one-sixteenth of the world's population. If it takes 17 airlines to serve one-seventeenth of the world's land surface and one-sixteenth of the world's population, it is not the part of wisdom for the U. S. to have one airline covering sixteen-seventeenths of the world's land area and serving fifteen-sixteenths of the world's people.

(3) As a result of a pre-war monopoly on foreign air commerce, the U. S. had only six commercial airplanes designed for transocean flying.

(4) Many of the domestic lines are now flying routes to all five continents and over every ocean. "As a consequence, we have more and better airmen qualified for international flight than any other nation on earth. The 16 airlines of the U. S. ask only the right to utilize the 'know how' of those airmen to greater advantage in international flight of the Postal Service, the commerce of the U. S., and the national defense . . ."

**PENNSYLVANIA-CENTRAL AIRLINES** passenger travel increased 1,067 or 34% in October as compared with October, 1942. Express sent from Pittsburgh over PCA increased from 46,461 pounds in October, 1942, to 66,011 pounds in October this year, representing an increase of 42%.

## PAA and TWA Reveal Extent of Flights Made for Services

Two airlines last fortnight revealed the extent to which they have participated in military transport operations. Transcontinental and Western Air took full page advertisements in metropolitan newspapers to feature its "1,100 Trans-Atlantic Crossings" for the armed forces. Pan American Airways issued a statement that "5,000 trans-oceanic crossings have been made since Pearl Harbor."

In releasing what is termed "world-record figures," Pan American emphasized that while the total number of flights made across the oceans is unique in the history of airlines, it represents only part of the war transport flying being done and the records being broken every day by the Air Transport Command and the Naval Air Transport Service, for which the domestic airlines operate war cargo routes under contract. The PAA total represents 2,733 crossings of the Atlantic in the service of the ATC, and 481 other crossings for NATS and by Clippers on their regularly scheduled commercial runs between the United States, Europe, and the British Isles. On the Pacific, PAA has completed 1,221 crossings of the North Pacific between the Hawaiian Islands and the mainland, including both Clipper schedules and crossings made for NATS, and 520 flights for NATS across the long run to the South Pacific war theatre.

The TWA advertisements said the airline's trans-oceanic total was run up in a period of less than 20 months. The advertisement added:

"We are proud of this achievement, but we are happy to confess that TWA is by no means the only airline rendering this type of service to the armed forces. Our work in military transport operation is typical of work being done by the entire airline industry today in helping to win the war. The vast over-ocean flight experience now being amassed by U. S. airlines has become a national asset of inestimable value. It gives bright promise of what the industry can accomplish in postwar transportation."

### Women in Industry—After War

Roy A. Watkins, executive vice-president and general manager of the Howard Aircraft Corp., declared in a recent address that "although public pressure in behalf of returning soldiers may force women out of many industries immediately after the war, the aircraft industry will always have a place for them."

"I can now say definitely that women are superior in some types of jobs to men," he said. "A great deal of our assembly line success has been due to the patience with which women are willing to do the same operation over and over again—efficiently and with a happy attitude. In acetylene torch welding, their hands are steadier and, on the whole, their torch welding measures up better than men's."

### 48 Million for Canadian Airports

Contracts amounting to \$48,448,000 have been awarded by the Civil Aviation Division, Canadian Department of Transport, for airport construction and land purchase under the dominion's air train-

veal  
nts  
rives

aled the  
icipated  
Trans-  
ook full  
opolitan  
Trans-  
forces  
in state-  
crossings  
bor."

"world-  
empha-  
umber of  
unique  
presents  
flying  
broken  
t Com-  
t Serv-  
nes op-  
contract  
crossing  
the ATC  
TS and  
scheduled  
United  
es. On  
1,221  
between  
ainland  
es and  
flights  
to the

the air-  
up in  
. The

vement,  
TWA  
render-  
armed  
transport  
g done  
day in  
over-  
being  
come a  
ue. It  
indus-  
transpor-

War  
pres-  
Iowa-  
nt ad-  
ure in  
force  
imme-  
industry  
m."

Women  
jobs to  
of our  
due to  
the will-  
er and  
happy  
elding  
n the  
res up

orts  
448,000  
avia-  
Trans-  
land  
train-

943



## The Work Horse

TO speak of a man or machine as a "work horse" and a "bear for work" may be mixing metaphors—but it's good American that fits the AVR-7 series of RCA Aircraft Receivers to a "T".

Since the original model was put into production in 1935, these now famous receivers have come into use on transports of the American Airlines, Pennsylvania Central Airlines, Northeast Airlines; on Pan American Airways Clippers and landing tenders; in

the Civil Air Patrol; in many charter and itinerant planes; in planes operated by the famous Flying Tigers; and in other military and transport aircraft throughout the world.

RCA AVR-7 Receivers are the accepted standard of their class. Proved by years of service, they are outstanding examples of the careful engineering and quality construction inherent in all RCA Aviation Radio equipment.



### RCA AVIATION RADIO

RCA Victor Division • RADIO CORPORATION OF AMERICA • Camden, N. J.



Minor

Dyer

United Air Lines announces that Thomas W. S. Davis has been named area manager for United Air Lines' air cargo department at Washington, D. C., and Robert E. Caskey has been appointed area manager for the department in Southern California.

Capt. Norman M. McNeil, who started with Pennsylvania-Central Airlines as a station manager at Flint, Mich., five years ago, has been appointed chief of the PCA flight test section.

Pan American Airways has appointed Arthur Ayres chief airways engineer in charge of airport maintenance, engineering, and construction for the PAA system.

Clarence O. Burgin has been named executive staff assistant of Chicago and Southern Air Lines.

Dr. Edward E. Minor, Jr., has been elected a vice president of All American Aviation, Inc., and will head a newly created manufacturing and development division of the company.

John G. Dyer, traffic representative for Transcontinental & Western Air, Inc., at Indianapolis, has been promoted to DTM there. He succeeds Howard Goodrich, Jr., who has been appointed traffic training supervisor at Kansas City.

Western Air Lines announces appointment of Dan R. Ballenger as operator in charge of the radiotelephone at Great Falls, Mont., and Henry A. Greenwell to a similar position at Butte, Mont.

Dorothy Graham, Pennsylvania-Central Airlines hostess, is in training in Red Cross hospital recreation duties preliminary to being sent overseas to an Army or Navy base hospital.

Jack E. Ponchelet, formerly assistant DTM at Pan American Airways' New York sales office, has resigned and is leaving soon for the North African



Williams

Butcher

*Airline Personnel*



Coyle

Graham



Ayres

Ceskey

theatre of operations as port representative for the War Shipping Administration.

Pennsylvania-Central Airlines reports that Earl O. Miller, formerly of the New York Central railroad, has been named traffic representative in Detroit.

Chicago & Southern Air Lines announces: Robert S. Maurer, formerly with the Certificate Unit of the Civil Aeronautics Board, has been named assistant to H. R. Bolander, Jr., general counsel; H. Lance Forsdick is manager of the new cafeteria in connection with the general office building at Memphis.

Louis S. Allen, international travel authority with steamship companies and airlines for the past 14 years, has been appointed special representative of the foreign travel department of American Airlines.

Walter W. Coyle has become manager of TWA's midwest region with headquarters in Kansas City.

Continental Air Lines has named Mildred "Tommy" Heck chief hostess.

Don Williams is the new DTM at New



Heck

Swigart

York for TWA. Ralph Butcher is DTM at Los Angeles.

Lee Swigart has assumed his new duties as Eastern regional traffic manager for Transcontinental & Western Air, Inc.

American Airlines reports that Al R. Bone, Jr., western traffic manager, is teaching a course in air transportation at the University of California.

E. N. Whitney, operations manager for Western Air Lines, announces that the airline's passenger service department has completed a reorganization program resulting in the promotions of many personnel:

A. Letcher Seamands has been appointed district manager of passenger service for Los Angeles, with offices at Lockheed Air Terminal. Phil Peirce has been appointed chief passenger agent at Burbank, and Leland Johnson has been appointed chief reservation salesman at Los Angeles headquarters.

Charles Coddington has been named new supervisor of training, conducted in Western's Los Angeles reservation office. Coddington will be responsible for the training section of passenger service. Ruth Hopkins, former reservationist with the airline, has been promoted to chief instructor reporting to the supervisor of training in Los Angeles.

Brent Berry has been appointed chief passenger agent at Salt Lake City, and Lucile Kemp, chief reservations agent in the same area. Russell J. Smith, newly appointed superintendent of passenger service, and William Kerrigan, newly appointed assistant to Smith, are now located in their new offices at Burbank operations headquarters.

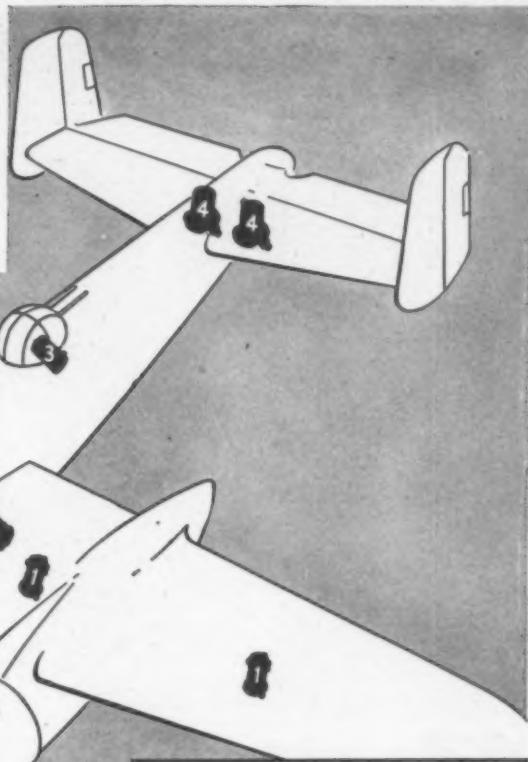
Murray T. Jackson has assumed charge of traffic at Miami for National Airlines, and George P. Dare is situated in his new job at DTM and superintendent of reservations for the entire National system at Miami.



Jackson

Dane

# MEETING THE PROBLEMS OF ACCESSORY POWER



Whether the application is a fuel pump or a gun mount, an instrument or a windshield wiper, Delco aircraft electric motors represent an efficient solution to the power problem. Each is designed with special consideration for space and weight limitations—each is built to the high standard of precision which airborne operation demands. Delco Products' engineering and manufacturing experience has been applied in full measure to the satisfying of the accessory motor requirements of the aircraft industry. Delco Products Division, General Motors Corporation, Dayton, Ohio.

—**EVERY WAR BOND PURCHASE**  
—  
—**BRINGS VICTORY CLOSER**  
—



**DELCO MOTORS**  
**DELCO PRODUCTS DIVISION OF GENERAL MOTORS**

THE TOUCH OF TOMORROW IN THE PLANES OF TODAY



## Reunion on the Field of Battle



These are Fairchild alumni—fighting men from Norway, Canada, the U. S. A.

Though they come from different parts of the world, these skillful warriors of the United Nations Air Forces have much in common.

Typical of thousands of fliers on every fighting front, each was given an intensive course in a Fairchild Primary Trainer as one important step on the road to winning his wings. Their meeting upon some distant airfield is virtually a reunion of "old grads" of the same Alma Mater.

It is easy to understand why the Air Forces choose Fairchilds for primary training.

There is the element of added safety. For example: quick take-offs and steep climbs can be performed by novices in a Fairchild Trainer without danger of stall-

ing, which caused so many fatalities in the last war. The trainee, behind a 175 or a 200 horsepower Ranger engine, just "pours on the coal" and he's quickly in the air with a lot of runway to spare.

And when it comes to acrobatics, which give a trainee an intimate feel of the controls and teach him instinctive flying, a Fairchild is the answer to an instructor's prayer. No need to crush the student's confidence by telling him not to dive at high speeds. Just teach him all the tricks in the bag, with the full knowledge that safety has been built into every inch of every Fairchild Trainer.

*Maneuverability with great safety, and rugged landing characteristics—for which all Fairchild trainers are famous—provide the foundation stone of Fairchild's "touch of tomorrow in the planes of today."*

BUY U. S. WAR BONDS AND STAMPS

**Fairchild Aircraft**

Division of Fairchild Engine & Airplane Corporation,  
Hagerstown, Maryland.....Burlington, North Carolina

# 'Airlines Should Maintain Personal Touch'

## Foley Sees, However, Possibility of Disposing of Some Distinctly Airline Services After the War

By E. J. FOLEY

YESTERDAY'S AND TODAY'S airline passenger has been a guest right from the moment he called to inquire about schedules. This has been a mutually happy situation which has doubtless enhanced air travel in the public mind. However, will tomorrow's passenger traffic volumes permit the continuation of this relationship? Or will sound economy of operation demand the paring of some or all of these services?

A discussion of future service to the passenger may seem rather foreign to these columns. It is an intangible phase of air transport; yet, its obvious continuing importance demands the thought of the industry's best minds. Our knowledge falls far short of that required to plot a practical attractive course of service to the passenger. We shall confine our comment to a simple exposition of the several services which may be affected. Any opinions as to trend are simply personal.

We digress for a moment to establish the relation of this subject to some of our past thinking. Maintenance, operations, aircraft design, etc. have been reviewed as potential threats to air transport overall speed and dependability. All of these topics have had some elements in common; they are tangible, physical; many of their problems can be solved with manual labor and metal; they are largely non-competitive in nature, i. e., simple for one, simple for all. In general, these past topics may be thought of as the "all other things" which are always "being equal."

This factual evaluation of past subjects does not detract from the need for solving the problems or planning the future. Nor does it entitle any of us to adopt the dilatory, let-George-do-it attitude toward any of them. The neglect of these physical factors can make service to the passenger conspicuous by the lack of business.

However, optimistically assuming that all these physical problems have been solved and our operating efficiency pegged at its peak, we must give full attention to the service-to-the-passenger phase of our traffic function.

A recent experience prompts us to consider the question of complimentary meal service first. Seated in a dining car of one of the nation's largest railroads, we were informed by a bold type announcement that the railroad was losing 30 cents on every dollar collected for meal service. Considering that every

chair was occupied and patrons stood waiting at each end of the car, we cast our eye about for the steward. Losing money hand over fist the way he was you might anticipate some sadness, even tears; instead he appeared not only content but ebullient. Just for the record, the road dropped \$1.65 on us that day. But after eating three meals we were at a loss to figure out how they were losing money. It could only be accomplished, it would seem, by the hiring of some very expensive, if naive, commissary personnel.

Getting back to the airline business—if we use the same convenient logic as the railroads, the airlines surely go them one better. Railroads lose only 30 cents on every dollar; complimentary meal service loses a dollar on every dollar. Seriously, this is a policy problem which demands attention. While the overall cost of food service need not be expected to increase in direct proportion to the passenger traffic volumes, there will be a mutual increase of the two. Moreover, it appears likely that several different types of food service may be required to fit the several types

of operations contemplated by individual lines. Box lunches and hot meals cooked en route would seem to bracket the possibilities.

The inevitability of providing meal service is conceded. The problem then becomes one of who shall pay for the service—the passenger or the carrier. In a sense it can be thought unfortunate that complimentary meal service has been so highly regarded by passengers. Just what the public reaction would be if food service were made an extra charge is impossible to predict.

Having posed the problem we shall only mention that the highly competitive nature of such a change makes it impractical except through joint airline action. If airline meals are to be paid for by the passenger, we believe that the meal price should be added to and paid for as a part of ticket cost. The complications of carrying a till, writing checks, making change, etc. under all flying conditions appear too great to warrant the use of this conventional surface transportation technique.

Our personal discourteous habit of appearing at the airport about one minute before plane time is an example of a second service problem which will grow with expanding business. Today's practice of paging, repaging etc. all the time holding the plane at the gate past departure time is a concession foreign to any other form of transportation. The relatively short passenger list of an airliner contrasted with other transport means has probably been a factor in making this extra courtesy possible. However, we personally see little justification for its continuance in the future. Speed and punctuality, two major factors in air transport, will become more in jeopardy as the abuse of this privilege grows with traffic volume. We feel that as in other modes of travel, the gates should be closed to permit scheduled departure, and it should be the passengers' responsibility to be on board.

Checking of all baggage, in spite of the few misrouted pieces, is a distinctive airline service. Unlike most services it represents a slight inconvenience to some passengers. This is evidenced by the expressed desire of certain air travelers to be able to carry hand luggage into the plane with them. Here is a service which, if the operators wish, they might be able to dispose of quite readily.

But as is so often the case in solutions welcomed by both sides, the physical limitations of the business represent an impediment. It appears doubtful that aircraft interiors will be made adaptable for efficient carriage of baggage immediately adjacent to the passengers' seats. Floor wells, wall wells or under seat locations all seem to present unsolvable problems. Not the least of these would be the aisle congestion resulting from 30 passengers each accompanied by a por-

(Turn to next page)



Foley

### Exhibit in New York



Sydney Nesbitt, left, sales manager of Lear Avia, Inc., explains one of his company's cowl flap adjustment systems to Robert Goodman of Brewster Aeronautical Corp., at the recent Lear Avia exhibition in Hotel Madison, New York City. The display dramatized precision engineering of motors, flexible shafts, screw jacks, and other products manufactured by the company.

(Continued from preceding page)  
ter carrying a bag, fighting their way into seats and "filing" their baggage.

A possible compromise which improves the position of both operator and passenger may take the form of accessible baggage space for the use of all passengers in the cabin. Thus passengers would be able to get to their baggage and, at the same time, baggage would be the passengers' responsibility to and from the aircraft door. This arrangement has its problems, too. The reluctance of air travelers to stow their property under conditions permitting the first deplaning passenger the choice of luggage appears to call for a definite link between each traveler and his property. Even if a modified form of checking proved the only solution, the arrangement would lose little of its advantage—passenger accessibility plus lengthened passenger responsibility.

While on the subject of baggage, we must give recognition to the oft-expressed passenger resentment at the outstretched palm. It has been suggested that this service, in normal times either desirable or necessary for many passengers, be provided by the air lines and that its cost be "hidden" in the ticket price. We can only say all forms of transportation contend with this problem and of the proposed solutions which we have seen tried, none represent a particular improvement over the direct, if crude, form.

One of the most extensive problems in future service to the passenger will be that of reservations. Its present complexities, if inherent and permanent point to a growth of work, personnel and expense in direct proportion to the expanding volume of traffic. Efficient operation will not stand for such a situation; accordingly, we must devise simplifications to assure increased capacity per unit of personnel or facility. One practice which would compensate for the growing reservations volume on the long through-operations might be the complete elimination of reservations on heavily trafficked, relatively short operations. Increased frequency of service may bring flights close enough together to make reservations superfluous. If you miss a flight, a half hour wait for the next one would void reservation value, as we see it.

For those operations which will not tolerate elimination of reservations, two factors will have to be depended upon to increase handling capacity. These are: first, simplification, the elimination of duplicating, overlapping or superfluous gestures; and second, mechanization, wherever possible, to step up the rate of those presently time-fixed portions of the service which do not admit of simplification. Both reservations and ticketing seem adapted to mechanization, and of course the latter, being essential to operation with or without reservations, must be the subject of even more detailed planning.

We have touched upon a very few of the service-to-passenger problems which will have to be reviewed in detail by every operator. While service and even super-service has been the mortar in the airline structure, it appears that volume of business may call for a compromise on many of these services. And if there was ever a need for intelligent compromise, this surely is it when we consider the extent to which personalized service has pervaded the air transport

## Equipment News

### Spray-Degreasing Booth

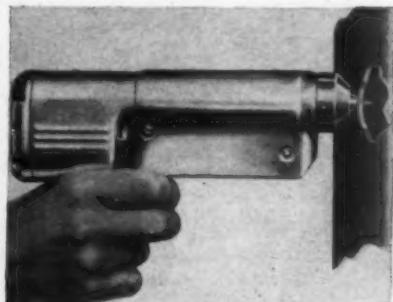
One of the most important advantages claimed for this new spray-degreasing booth by the DeVilbiss Co., Toledo, O. is the ability to hold solvent loss to a minimum. According to reports, the unit has been engineered for safety even when hazardous materials of high volatility and



low flash-point are used and it also removes fumes more effectively. The booth is made in 14, 16 and 18 gage steel; sizes may be varied dependent on the product to be handled.

### Rivet Driver

A new device that will drive four "blind" rivets a minute in aircraft production was introduced to the Army and



the Navy, and to the West Coast aircraft industry in Los Angeles last fortnight by Independent Pneumatic Tool Company, Chicago, manufacturers of Thor portable pneumatic and electric tools.

### Coupling and Lock Nuts

These are samples of the line of coupling and lock nuts of the AN series for use on conduit as now being fabricated from sheet aluminum by the Rumsen Co., 8059 Melrose Ave., Los Angeles. Working con-

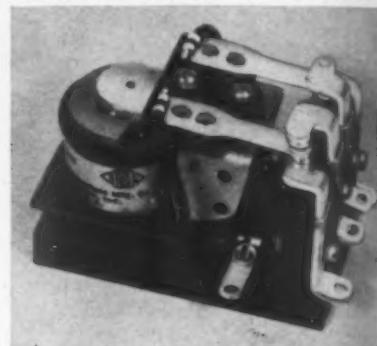
operation. To keep the little added touch of personal interest in every way possible without allowing the tail to wag the dog would seem to be the goal.

There are dozens of services we have

dition tests, the manufacturer says, have proven them as strong as machined nuts and stronger and more consistent in strength than the die cast nuts. The series is now being produced in AN 3054, -3, -4, -6, -8, -10, -12, -16 sizes. The nuts are said to be lighter than the conventional.

### Potter-Brumfield Relay

This is one of the new SP series relays developed by Potter & Brumfield Mfg. Co., Princeton, Ind. This line has been designed to provide small, general purpose units which will withstand shock and vibration. A balanced armature permits operation in any position and the unit



construction of the molded bakelite base and stationary contact support is said to eliminate the many screws and rivets found in the ordinary small relay. The line comes in both AC and DC types with a representative non-induction load of five (5) amperes at 110 volts, 60 cycles.

### Drafting Machine

This drafting machine for use on portable boards in the field or the shop is known as the V & E Mfg. Co. of Pasadena, Cal. It is said that the extensive use of new, shock-resistant plastics per-



mits a light weight (3 lbs.) with many big machine features. Aluminum scales are available in 8" and 12" lengths. The protractor is 3 1/4" in diameter and full circle base line setting is permissible. The unit sells for \$42.50 on priority orders.

not even mentioned. Your interest in the subject can but be evidenced by your adding to our list and proposing to us your solutions to any or all of these puzzles.

# Unleashing A HELLCAT'S FURY —



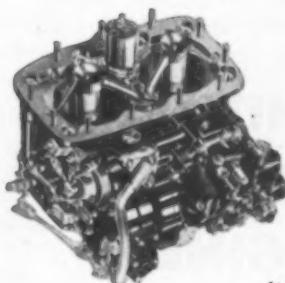
## STROMBERG CARBURETION HELPS GIVE THE NAVY'S FASTEST FIGHTER UNMATCHED

# Striking Power!

When the new Grumman "Hellcat" goes roaring from carrier decks to knock Axis planes from the sky, Stromberg\* Injection Carburetors assure constant power flow under all flying conditions. Compensating instantly for changes in altitude, attitude, or temperature, Stromberg Carburetors help give the "Hellcat" more climb and speed, and greater maneuverability. Automatic fuel metering permits lightning-fast acceleration and deceleration of the motor.

In the light of laboratory research and battlefield experience, Stromberg Carburetors are constantly being improved to give the planes in which they fly still greater striking power.

\*Trademark of Bendix Aviation Corporation



*Stromberg*  
\*  
INJECTION  
CARBURETOR

The Stromberg Aircraft Carburetor is an important member of "The Invisible Crew" . . . precision instruments and controls, which more than 30 Bendix plants from coast to coast are speeding to our fighting crews on world battle fronts.



BENDIX PRODUCTS DIVISION  
BENDIX AVIATION CORPORATION  
SOUTH BEND, INDIANA

## WMC Committee Ends Manpower Study; Favors Voluntary Employment

The war manpower problem can best be solved by pursuing the present voluntary methods to their fullest extent, the Management-Labor Policy Committee of War Manpower Commission asserts. Declaring its opposition to National Service legislation the Committee has approved WMC's "locally developed manpower programs under decentralized administration" as a sound pattern for manpower control.

The present critical labor situation is a result of dislocation, mal-distribution of contracts, and poor utilization rather than inadequate over-all supply of labor, the Committee has found. Not broadened control and regulation, but leadership, coordinated plans, and efficient administration will provide the answer, the group believes.

Fully effective mobilization and utilization of manpower will be achieved, stated the joint declaration by the labor, agricultural and management representatives, "when all agencies of the government concerned with procurement, production, and manpower are administered under a coordinated and well-understood arrangement in which government defines the war needs, enunciates the fundamental policies, confines itself to a minimum of control and administrative detail, and provides the maximum of real assistance to those who must do the work, and when all the people understand their personal

obligations as related to the war needs, and know where and when to apply their services in such manner as best to aid in the war effort."

The proposals advocated by the Committee for WMC's future action, in effect, restated the plan for critical areas drawn up by Director of War Mobilization Byrnes. They recommended that Byrnes continue to appraise production requirements in relation to manpower resources and to eliminate overlapping government jurisdictions and policies in order to permit decentralized administration of manpower programs.

The key to the Committee's stand against National Service Legislation and for a continuation of current WMC policies is contained in its proposal that "the major responsibility for solutions of production and manpower problems be placed in the hands of local representatives of government, labor, agriculture and management, who are in the community and are closest to its problems."

## Consolidated Vultee Cited

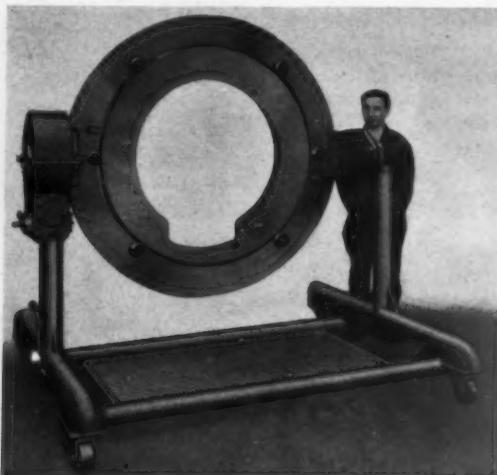
The War Production Board reveals that Consolidated Vultee Aircraft Corp., has led in three production classifications since June 1, as follows:

San Diego Division—first in the heavy bomber classification.

Nashville Division—first in the single-engine bomber field.

Vultee Field Division—first in the basic or advanced trainer and utility transport plane classification.

## WHITING MODEL E6 ENGINE STAND



The Whiting Model E6 Engine Assembly Stand has been engineered to provide a modern, time-saving means of assembling and servicing large radial aircraft engines. It can be used by manufacturers, in assembly lines, and for maintenance operations.

The Whiting Engine Stand permits rotation of the work about two axes, provides maximum accessibility to the engine. Heavy, welded, tubular construction supports bed

plate and enclosed worm gear mechanism. Heavy interchangeable adapter plates available for R2600, R2800, and for R3350 type engines revolve on the bed plate.

Main Office and Plant: 15647 Lathrop Ave., Harvey, Ill. Western Office: 1151 S. Broadway, Los Angeles 15, Calif. Canadian Subsidiary: Whiting Corporation (Canada), Ltd., Toronto, Ontario. Branch Offices in New York, Chicago, Buffalo, Birmingham, Pittsburgh, Detroit, Cincinnati, St. Louis, and Washington, D.C.

# WHITING CORPORATION



Aviation  
Division

## NASC Adopts New Set Of Specifications to Simplify Aero Design

(Picture on page 84)

Adoption of new standards and specifications to simplify design, assembly and maintenance of airplanes was announced by the National Aircraft Standards Committee of the prime airframe contractors following a recent meeting in New York.

Eric Dudley, materials and standards engineer for Curtiss-Wright and retiring chairman of the committee, revealed the group, now in its third year, has produced from 50 to 75 new standards and specifications per year which have been officially adopted—all of which help to simplify the raw materials problems of airplane designers, manufacturers and purchasers.

The meeting approved a progress report for the reduction of varieties of sizes, thicknesses and tolerances for carbon, alloy and stainless steels in sheet plate and bar form to approximately one-seventh of their former number—a project which is nearly complete.

Officers elected for the coming year are: Jack F. Cox (Vega, Burbank), national chairman; George W. Baumhamer (Cessna, Wichita), eastern division chairman; Charles Sardou, Jr., (Consolidated Vultee, Downey, Cal.) western chairman; Jerome Gropper (Brewster, Hatboro, Pa.) eastern vice chairman; Glen Aron (Northrop, Hawthorne) western vice chairman.

Attending the meeting were 40 representatives of the 32 contractors for design and production of government airplanes, and also members of the Army-Navy Aeronautical Board, the Bureau of Aeronautics, the Wright Field staff, War Production Board, American Standards Association, British Air Commission, Royal Canadian Air Force and the Australian Office of War Supplies.

Dudley reported that the Army-Navy Aeronautical Board is giving the National Aeronautical Standards Committee increasing responsibility in the preparation of data for Army-Navy standards, which are the highest in the aviation world. Many NASC standards become Army-Navy standards.

Among the accomplishments of the NASC during the past year, it was announced, was the reduction of the 2700 varieties of dural tubing materials and sizes to 325, a corresponding reduction in steel tubing and the cutting of the approximately 100 varieties of rivet types and materials used in airplane construction to less than 10.

The committee reviewed its more than 100 projects and projects surveys covering standards for every department of airplane design.

It was predicted that the work of the committee, organized to develop wartime standard parts, methods and specifications, will be of equal importance in peacetime development of commercial aviation.

The committee announced that it is planning a nationwide educational program for teaching men in all departments of the aviation industry to be "standards minded," a condition which according to the committee, was definitely lacking before the present war.

Set  
to  
Design

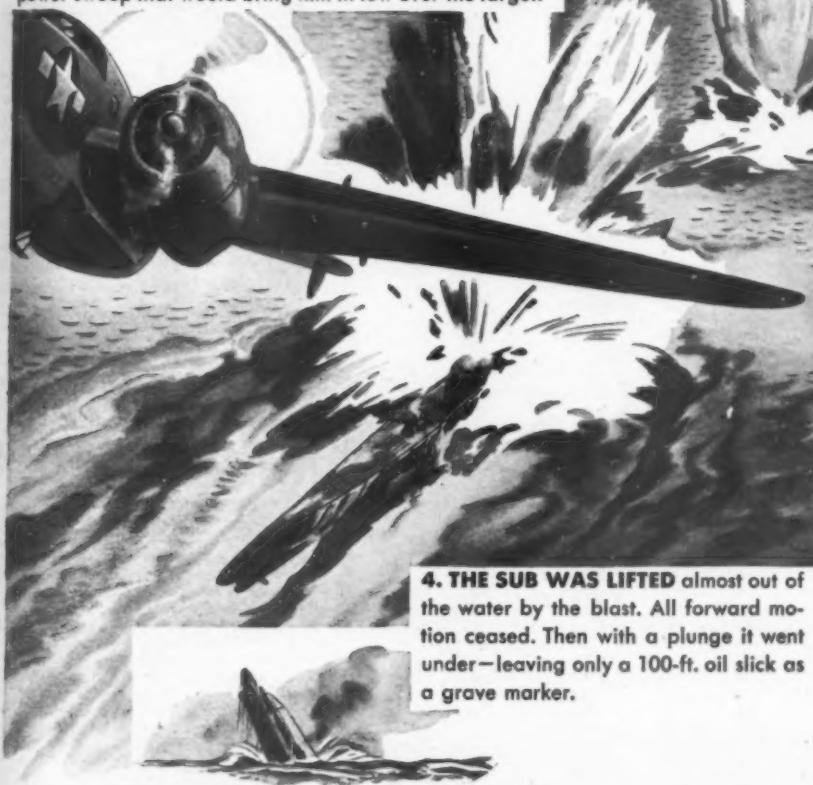
## SCORE ONE FOR THE SUB-BUSTER

### Navy Pilot Proves Sub-Sinking Abilities of Vega's New PV-1

The PV-1 is the first land-based bomber built for the U. S. Navy. It's a nautical version of the Vega Ventura—a deep-bellied sea rover with extra range for long patrols, reserve speed to pounce on a sub before it can crash-dive, and wallop enough to blast it out of commission. Here's the story of the Navy Ventura's first kill.



**2. SUDDENLY THEY SAW IT**—a German submarine surfaced and poised for attack several miles away. Without hesitation the pilot pushed his fast Vega down in a power swoop that would bring him in low over the target.



**4. THE SUB WAS LIFTED** almost out of the water by the blast. All forward motion ceased. Then with a plunge it went under—leaving only a 100-ft. oil slick as a grave marker.

**5. "GALLANT—cool—well-executed action,"** said the Navy of the Ventura's crew. In their hands a dependable airplane had proved itself. Now, with scores of other heroic Navy crews at the controls, rugged PV-1's are in constant service in the United Nations' battle to keep open the supply lanes of the world.



**1. IT STARTED** out as a "routine patrol!" The Navy crew and their plane were to guard a slow-moving Allied convoy against enemy torpedoes. On regular pattern flights they scanned the tossing water on every side of the laboring ships—eight eyes on the alert for telltale signs of enemy marauders.



**3. THE SUB'S COMMANDER** put his deck guns into action, hoping to stop the racing PV-1 before it got within striking distance. Accurate gunfire riddled one wing. But still the plane pressed in, now virtually skimming the surface of the water. The sub tried to "crash-dive" but too late. Four "ash can" depth charges hurtled from the Ventura's whopping bomb-bay—three exploding just ahead of the moving U-boat and the fourth square on the deck.



This is another in a series of stories about Lockheed and Vega and their accomplishments. Watch the pages of this magazine for another true aviation adventure.

**Vega**  
AIRCRAFT CORPORATION

A subsidiary of Lockheed Aircraft Corporation, Burbank, California

## Wright Announces 2,200 HP 'Cyclone-18'

An airplane engine more powerful than the Cyclone that powers the Flying Fortress is in quantity production at Wright Aeronautical Corporation's Paterson, N. J., plant, the company announced last fortnight. The new engine, air-cooled and of the radial type, develops 2,200 hp, the highest engine horsepower figure ever permitted to be published by the War Department.

Called Cyclone-18 it made its first transport appearance in a 60-passenger, four-engined Lockheed Constellation, originally ordered by Transcontinental and Western Air and Pan American Airways but now assigned to the Army Transport Command, said Myron B. Gordon, vice-president and general manager of the Wright Patterson plant. He said the engine packs its power into a 55-inch diameter, same as that on the original

nine-cylinder Cyclone introduced in 1927 with a rating of only 525 hp. He described it as having 18 cylinders, built in two banks of nine each with a displacement of 3,350 cubic inches.

Gordon listed construction features as follows:

1. A nose section of special design to permit use of a close-fitting cowl.
2. Aluminum alloy cylinder heads and nitrailoy steel cylinder barrels.
3. Steel crankcase.
4. Use of lightweight magnesium in nose section and supercharger housing.

### Declare Northrop Dividend

The board of directors of Northrop Aircraft, Inc., on Nov. 9 declared an initial dividend of 40 cents, payable on Dec. 10 to stockholders of record, Nov. 15.

## Leading Aviation Stocks

### New York Curb Exchange

	Week Ending Nov. 13				Week Ending Nov. 20			
	Sales	High	Low	Net Change	Sales	High	Low	Net Change
Aero Supply B	1,500	4	3 1/4	- 1/2	600	4	3 1/2	+ 1/2
Air Associates	500	7 1/2	7	- 1/2	...	...	...	...
Aircraft Accessories	2,800	2 1/2	2 1/4	- 1/2	2,700	2 1/2	2	- 1/2
Aro Equipment	400	7 1/2	7 1/2	- 1/2	1,100	7 1/2	6 1/2	+ 1/2
Bellanca Aircraft	700	2 1/2	2 1/4	- 1/2	600	2 1/2	2 1/4	- 1/2
Beece Corp.	2,700	10	9 1/2	- 1/2	800	10	9 1/2	...
Brewster Aero	6,300	3 1/2	3 1/2	...	3,100	4	3 1/2	- 1/2
Cessna Aircraft	5,200	6 1/2	5 1/2	+ 1/2	2,800	5 1/2	5	- 1/2
Colonial Airlines	4,300	7 1/2	6	- 1 1/2	5,100	6 1/2	5 1/2	+ 1/2
Fairchild Aviation	800	7 1/2	6 1/2	- 1/2	800	7 1/2	6 1/2	+ 1/2
Fairchild Eng. & Air	5,200	12 1/2	11 1/2	...	9,400	2	1 1/2	+ 1/2
Irving Air Chute	700	8	8	...	800	8	7 1/2	...
Republic Aviation	6,100	3	2 1/2	...	8,600	3 1/2	2 1/2	+ 1/2
Ryan Aero	1,800	3	3	- 1/2	500	3 1/2	3	+ 1/2
Solar Aircraft	800	3	2 1/2	...	100	2 1/2	2 1/2	- 1/2
United Aircraft pfd	2,400	8 1/2	7 1/2	- 1/2	600	8 1/2	8 1/2	+ 1/2
Waco Aircraft	1,800	3 1/2	2 1/2	- 1/2	100	3	3	+ 1/2
Western Air Lines	2,400	8 1/2	7 1/2	- 1 1/2	1,500	8 1/2	7 1/2	+ 1/2

### New York Stock Exchange

	Week Ending Nov. 13				Week Ending Nov. 20			
	Sales	High	Low	Net Change	Sales	High	Low	Net Change
American Airlines	4,100	62	59 1/2	- 1 1/2	4,500	63 1/2	60	+ 3
Aviation Corp.	53,800	3 1/2	3 1/2	- 1/2	19,900	3 1/2	3 1/2	...
Beech Aircraft	5,000	10	8 1/2	- 1	2,800	9 1/2	8 1/2	+ 1/2
Bell Aircraft	5,800	13 1/2	10 1/2	- 1 1/2	3,600	12	10	- 1/2
Bendix Aviation	6,700	34 1/2	33	- 1 1/2	5,600	33 1/2	33	+ 1/2
Boeing Airplane	12,000	14 1/2	12 1/2	- 1	7,800	13 1/2	13	+ 1/2
Brainair Airways	7,800	12 1/2	11 1/2	- 1/2	6,600	12 1/2	12	+ 1/2
Consolidated Vultee	14,900	11 1/2	10 1/2	- 1 1/2	9,400	11 1/2	10 1/2	...
Consolidated Vultee pfd	1,100	20	19 1/2	- 1/2	700	20 1/2	19 1/2	+ 1/2
Curtiss-Wright	35,300	7 1/2	6 1/2	- 1/2	17,600	7	6 1/2	...
Curtiss-Wright A	5,700	17 1/2	16 1/2	- 1/2	5,400	16 1/2	16 1/2	- 1/2
Douglas Aircraft	8,100	52 1/2	48 1/2	- 3 1/2	7,700	50 1/2	48	- 1/2
Eastern Air Lines	3,500	35	33 1/2	+ 1/2	4,700	35 1/2	33	+ 1/2
Ex-Cell-O	2,100	22 1/2	20	- 1	3,700	22	20	+ 1/2
Grumman Aircraft Eng.	4,100	11 1/2	10 1/2	- 1/2	2,300	11 1/2	11	+ 1/2
Hayes Industries	3,000	7	6 1/2	- 1/2	700	6 1/2	6 1/2	- 1/2
Lockheed Aircraft	17,100	15 1/2	13 1/2	- 1 1/2	10,000	15	14	+ 1/2
Martin Co., Glenn L.	8,800	16 1/2	15 1/2	- 1 1/2	6,800	17 1/2	15 1/2	+ 1/2
National Aviation	2,200	11	9 1/2	- 1 1/2	2,200	9 1/2	9 1/2	...
North American Aviation	12,500	9 1/2	8 1/2	- 1	9,700	9 1/2	8 1/2	+ 1/2
Northwest Airlines	3,200	18 1/2	16	+ 1/2	500	18	17 1/2	- 1/2
Pan American Airways	22,200	31	29 1/2	- 1 1/2	11,400	31 1/2	29	+ 1 1/2
Penn Central Airlines	5,500	14 1/2	13	- 1 1/2	5,600	14 1/2	13 1/2	+ 1 1/2
Sperry Corp.	10,100	25 1/2	24 1/2	- 1 1/2	8,000	25 1/2	24 1/2	- 1/2
Thompson Products	1,500	30 1/2	28 1/2	- 1 1/2	800	30 1/2	29	+ 1 1/2
Trans. & Western Air	4,100	19 1/2	18 1/2	- 1 1/2	3,600	19 1/2	17 1/2	+ 1 1/2
United Air Lines	17,400	24 1/2	22 1/2	- 1 1/2	18,400	24 1/2	22 1/2	+ 1 1/2
United Aircraft	13,100	28 1/2	26 1/2	- 1 1/2	15,900	28 1/2	27 1/2	+ 1 1/2
United Aircraft pfd	1,000	102 1/2	101 1/2	- 1	400	101	100 1/2	...
Wright Aero	7,000	93	90	- 2 1/2	300	91	90	+ 1

## Just out!... the Standard Almanac of American Aviation



**T**HIS book tells exactly what this country has accomplished in the air during 1942-43; the true meaning of American air power; the training of the Army and Navy airmen; the miracle of our country's all-out airplane production; recounts the superb service of private fliers in the Civil Air Patrol to the armed forces; shows how the airlines, working with the Army and Navy, have prepared the way for global air transport. A definitive record of an air-history-making year, military and civil aviation alike. 64 pages of pictures. Limited quantity... order now and be sure of getting your copy.

## THE AVIATION ANNUAL OF 1944

Edited by REGINALD M. CLEVELAND and FREDERICK P. GRAHAM. Foreword by GILL ROBB WILSON, President of National Aeronautic Association. Special section forewords by General H. H. ARNOLD, Commanding General, U.S.A.A.F.; Vice Admiral JOHN S. McCAIN, U.S.N., Deputy Chief of Naval Operations (Air); Glenn L. MARTIN, President, The Glenn L. Martin Company; Guy W. VAUGHAN, President, Curtiss-Wright Corporation; Eugene E. WILSON, President, United Aircraft Corporation; CHARLES I. STANTON, Administrator, C.A.A.; Col. EDGAR S. GORRELL, President, Air Transport Association; DR. HUGH S. DRYDEN, President, Institute of the Aeronautical Sciences.

To your bookseller, or  
Doubleday, Doran & Co., Dept. AA12  
Garden City, N. Y.

Send me \_\_\_\_\_ copies of THE AVIATION ANNUAL OF 1944 at \$3.50 each. Remittance enclosed.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

the  
mac of  
tion

ON 44

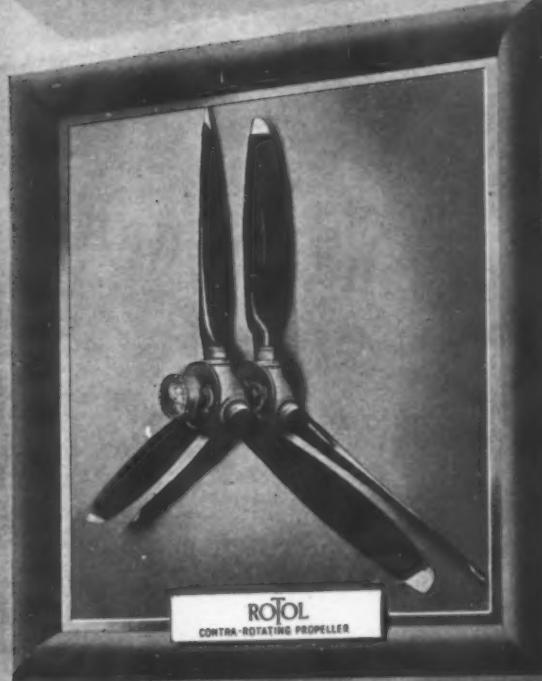
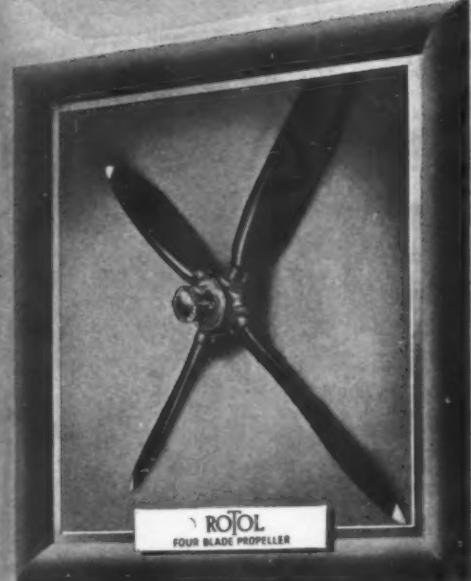
ells exactly  
in the air  
American  
and Navy  
y's all-out  
perb serv-  
Patrol u  
e airline,  
have pas-  
transport. A  
king year,  
pages of  
now and

ON  
944

AND  
by Gil  
Aeronauti-  
y Genud  
S.A.A.F.;  
, Deputy  
L. Martin;  
; Guy W.  
orporation;  
ircraft Co-  
ministrat.,  
ident, Air  
den, Pro-  
ces.

2  
TION  
ittance

1943



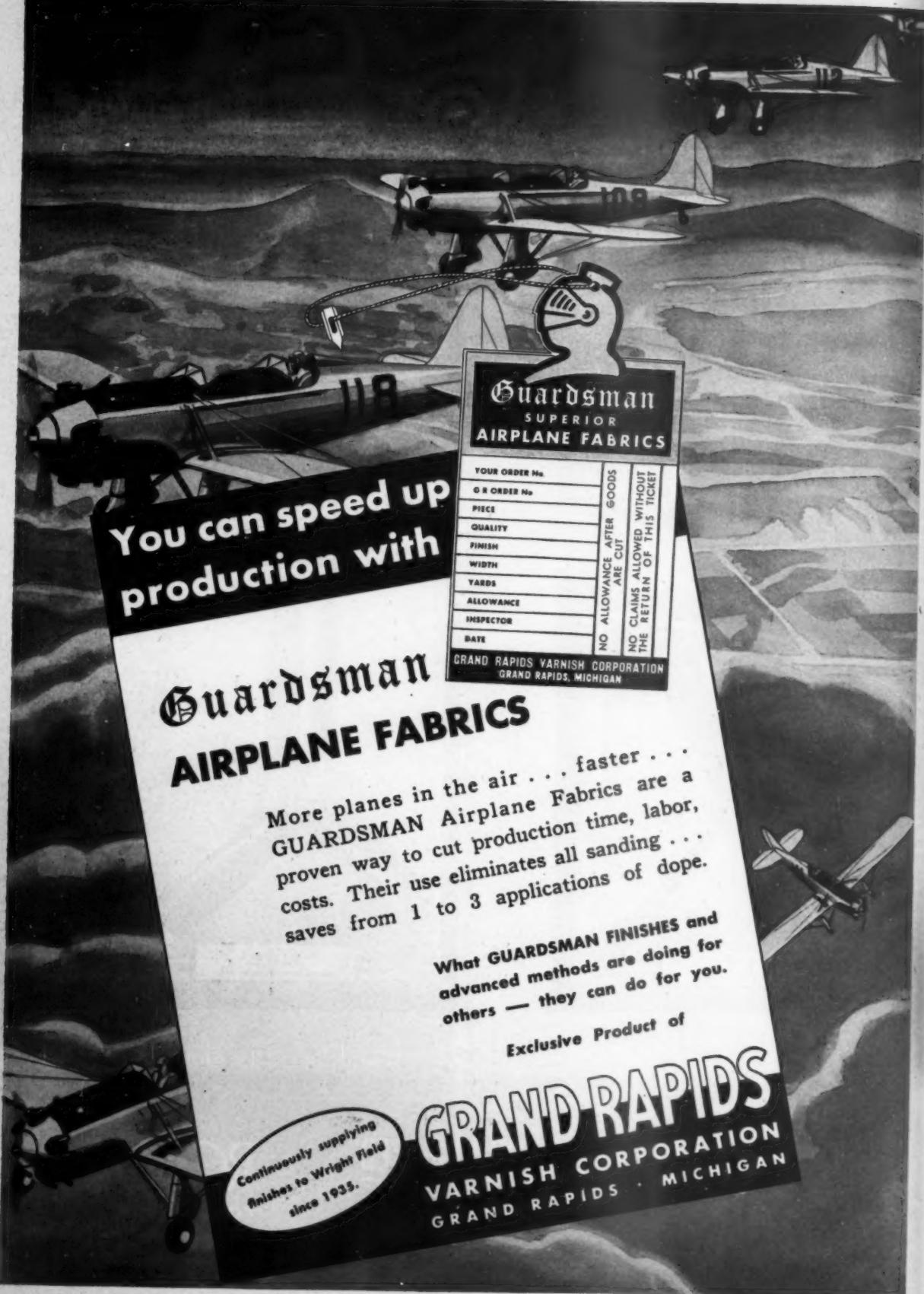
## "EVERY QUALIFICATION OF A THOROUGHBRED"

SIMPLICITY OF DESIGN AND MECHANISM  
AND TEAMED WITH ALL BRITISH HIGH PERFORMANCE AIRSCREWS

**ROTOL**  
CONSTANT SPEED  
HYDRAULIC PROPELLERS

ROTOL AIRSCREWS LIMITED, ENGLAND

London • Birmingham • Bristol • Liverpool  
AIRCRAFT AIRSCREW MANUFACTURERS



You can speed up  
production with

## Guardsman AIRPLANE FABRICS

More planes in the air . . . faster . . .  
GUARDSMAN Airplane Fabrics are a  
proven way to cut production time, labor,  
costs. Their use eliminates all sanding . . .  
saves from 1 to 3 applications of dope.

What GUARDSMAN FINISHES and  
advanced methods are doing for  
others — they can do for you.

Exclusive Product of

**GRAND RAPIDS**  
VARNISH CORPORATION  
GRAND RAPIDS, MICHIGAN

Continuously supplying  
finishes to Wright Field  
since 1935.

### Guardsman SUPERIOR AIRPLANE FABRICS

YOUR ORDER No.

G.R. ORDER No.

PIECE

QUALITY

FINISH

WIDTH

YARDS

ALLOWANCE

INSPECTOR

DATE

NO ALLOWANCE AFTER GOODS  
ARE CUT  
NO CLAIMS ALLOWED WITHOUT  
THE RETURN OF THIS TICKET

GRAND RAPIDS VARNISH CORPORATION  
GRAND RAPIDS, MICHIGAN



Wheeler

Baum



Roth

Carr

Alan G. Day has been named representative of Hamilton Standard Propellers at Wright Field, the company announces. Day has been chief engineer at Canadian Propellers, Ltd., Montreal, for the past two years.

Felix Kallis, chief aeronautical engineer for Southwest Airways, has been appointed general manager of the company's aircraft and engine overhaul depot.

Cook Heat Treating Co., Los Angeles, announces that Joseph C. Meyer formerly of Warman Steel Co., has been appointed comptroller.

Harold B. Barr has purchased the interest of Wade E. Miller in Aerocraft Heat Treating Co., Los Angeles.

W. Kent Wheeler has assumed his new duties as Dayton, O., liaison representative of the manifold manufacturing division of Ryan Aeronautical Co.

William L. Wilson has assumed his new duties as assistant to the president of Kellett Aircraft Corp.

## Manufacturing Personnel



Crawford

Beck



Wilson

Monroe



Deeds

Burt

Aircooled Motors Corp. has promoted C. F. B. Roth, general sales manager, to vice president in charge of sales and Charles F. Carr to secretary-treasurer. Carr was formerly assistant secretary-treasurer.

Dr. Nathaniel Baum, Chicago chemist, has been appointed head of the organic research department of Turco Products, Inc., Los Angeles.

Aircraft Tools, Inc., has named Harry J. Crawford, former factory representative, sales manager.

D. A. Beck is the new assistant manager of Goodyear Aircraft Corporation's general design engineering department.

Fairchild Engine and Airplane Corp. announces that Henry S. Jones, former assistant works manager of the Hagerstown, Md., plant, has assumed duties as factory manager of the Burlington, N. C., plant.

After four years of retirement, James G. Kellogg has returned to Kellogg Switchboard & Supply Co. as president, succeeding Maj. Maurice K. McGrath, who has resigned but will continue as a director of the firm. James H. Kellogg, son of the president, has been elected executive vice president of the company.

Pratt and Whitney's Niles-Bement-Pond Division announces that at a recent meeting of the board Clayton R. Burt, formerly president and general manager, was named chairman of the board, and Charles W. Deeds, former president of Chandler-Evans Corp., recently acquired by P-W, was named president and general manager. Burt is a past president of the national Machine Tool Builders' Association. Deeds was at one time vice president and general manager of the Pratt and Whitney Aircraft Division.

Morgan C. Monroe has been named director of industrial relations of the Farmingdale Division, Republic Aviation Corp.

Burton H. Witherspoon has been appointed executive assistant to the vice president in charge of the Curtiss-Wright Corp., Airplane Division, Buffalo.

## Six Appointments Announced by Douglas Aircraft Company



King

Owens



Romaïs



Kerr



Goldstein



Farr

DOUGLAS AIRCRAFT CO. announced six major appointments during the past fortnight. A. E. Farr was advanced to supervisor of the mechanical controls section; Kingdon Kerr was named a special project engineer; J. E. Owens was appointed plant engineer of the Chicago plant; J. R. Goldstein was selected to head the newly formed Douglas Research Laboratories; V. D. King was named general supervisor of a new

"change control" department at the Santa Monica, Cal., plant; and J. E. Romaïs was appointed chairman of the employee-management War Production Committee at the Chicago plant.

Romaïs had been supervisor of sheet metal at Chicago. King, a native of Canada who helped build "Jennies" at the Curtiss Aircraft Co. plant in Toronto during the first part of World War I, was formerly supervisor of the Douglas

planning department. Goldstein formerly headed the company's engineering laboratory, and Owens was assistant plant engineer in Chicago. Kerr was originally a Northrop engineer, joining Douglas when the company took over the Northrop El Segundo, Cal., plant. Farr, a former pilot in the Army Air Corps, and sometime engineer with the Curtiss, Keystone, and Sikorsky aircraft companies, has been a Douglas engineer seven years.

## United Aircraft Profits Up

United Aircraft Corp. and subsidiaries show a net profit of \$3,861,410 for the quarter ended Sept. 30, after charges and federal taxes. This is equal to \$1.33 a share on the 2,656,701 shares of common stock. Profit compares with that of \$3,460,932, or \$1.18 a common share, for the quarter ended Sept. 30, 1942, and net profit of \$4,070,163, or \$1.41 a common share, for the quarter ended June 30. The Consolidated statement does not include the accounts of Pratt and Whitney Aircraft Corp. of Missouri (wholly owned) or Canadian Pratt and Whitney Aircraft Co., Ltd. (70% owned) but do include those of United Aircraft Service Corp.

## De Havilland Names School Board

De Havilland Aircraft Co. has set up an educational board, consisting of 12 senior executives of the aircraft, engine, and propeller divisions, which directs all educational activities of the company. De Havilland maintains a technical school with design, production, and maintenance courses. On completion of his course, a design student is qualified to pass examinations for an Association Fellowship in the Royal Aeronautical Society; a production student those for Graduateship of the Institute of Production Engineers; and a maintenance and repair student those for the Air Ministry Ground Engineers' licenses.

## Aircraft X-Ray Laboratories Announces Large Expansion

Aircraft X-Ray Laboratories announces expansion of its magnetic inspection and metallurgical facilities in a newly equipped plant in Los Angeles. Within three years of its establishment, Aircraft X-Ray's inspection facilities have grown to such proportions that the examination of 150,000 to 200,000 small parts daily has been possible through the combined efforts of the firm's x-ray,

radium, metallurgical, and magnetic analysis divisions. Founder and president of the company is George E. Newton, whose original methods of gearing the non-destructive inspection of metals on an accurate and rapid scale is said to have saved the aircraft industry thousands of dollars monthly.

THOMPSON PRODUCTS, Inc., and subsidiaries report a net profit of \$2,018,912 for the nine months ended Sept. 30, subject to audit and year-end adjustments and renegotiation.



Newton

## Breeze Corp. 40c Dividend

Breeze Corp. directors have declared a dividend of 40c per share on the company's capital stock, payable Dec. 10 to holders of record Dec. 1. This brings the corporation's dividend payments thus far in 1943 to \$1.60. The company announces that it has exceeded its 1943 manufacturing and shipping schedules to date.

## 2nd Aviation Corp. Dividend

A second 1943 dividend has been declared by The Aviation Corp., payable Dec. 20 to stockholders of record Nov. 30. The dividend will amount to 10c per share on the corporation's outstanding common stock. This declaration follows a dividend of 10c per share paid April 30, making a total of 20c for the 1943 fiscal year ending Nov. 30. The company paid dividends totaling 25c in 1942.

## All Negro Workers

Colored workers comprise the entire production force of the new branch plant of Avion, Inc., in the Central Avenue section of Los Angeles. The workers all were trained at the company's main factory, and two weeks ago went over to the Central neighborhood where an important sub-assembly for Lightning P-38 production is underway.

## CHECK LIST

FOR AVIATION EQUIPMENT



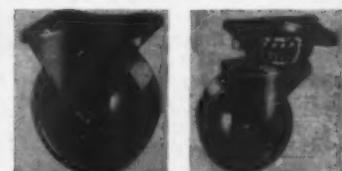
Sole Eastern Distributor for DIX Universal Joints and Other Precision Equipment. Write today for illustrated catalogue.

**OTTO**  
AVIATION  
CORPORATION  
BLOOMFIELD, N. J.

West Coast Representative:  
6604 San Fernando Boulevard  
Glendale, California



# DARNELL



## KEEP THEM ROLLING

• Save Money, Floors, Equipment and Time by using DARNELL Casters and Wheels...Always dependable,

DARNELL CORP. LTD., 60 WALKER ST., NEW YORK, N.Y.  
LONG BEACH, CALIFORNIA 36 W. CLINTON, CHICAGO, ILL.

Dividend  
e declared a  
n the com-  
Dec. 10 to  
s brings the  
nts thus far  
y announces  
anufacturing  
te.

ividend  
s been de-  
p., payable  
ord Nov. 30.  
c per share  
ng common  
a dividend  
, making a  
year end-  
paid divi-

the entire  
anch plant  
al Avenue  
e workers  
ny's main  
went over  
where an  
Lightning



## Hatching a War-Bird

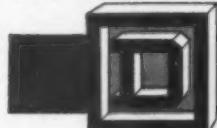
THE majority of those who use and respect Kollsman aircraft instruments know them most intimately as sentinels on the airplane instrument panel, indispensable to the plane's precise and dependable operation.

But long before our war-birds ever get into service, many engineers certify their design and perform-

ance with Kollsman instruments in wind tunnels, engine test cells and in test flights.

Because of their accuracy, standard Kollsman instruments are found in frequent use for many forms of aeronautical experiment and in production testing. In addition, many special Kollsman instruments have been developed for these uses.

### KOLLSMAN AIRCRAFT INSTRUMENTS



PRODUCT OF  
**SQUARE D COMPANY**

ELMHURST, NEW YORK

GLENDALE, CALIFORNIA



**World War I**  
**AIR SPEEDS LESS THAN**  
**150 M.P.H.**

# PLEXIGLAS

*...and modern plane PERFORMANCE*

**T**O the pilots of 1918 Jennys and Spads, a speed of 200 miles per hour was unthinkable. Men couldn't possibly breathe in such fast and freezing slipstreams, let alone pilot a plane or aim a gun.

But they didn't foresee PLEXIGLAS. Today this crystal-clear plastic

—formed into streamlined bomber noses, tail assemblies, gun turrets and cockpit canopies—protects the crew on every type of Army and Navy airplane.

Even in the extremely low temperatures of the sub-stratosphere PLEXIGLAS is strong and shatter-proof. It is permanently trans-

parent and will not discolor or warp in service. PLEXIGLAS is as clear as optical glass yet only half as heavy.

Recognized as "aviation's standard transparent plastic," PLEXIGLAS will also contribute to the comfort, safety, visibility and performance of your peacetime plane tomorrow.

*Only Rohm & Haas Makes*  
**PLEXIGLAS**



*PLEXIGLAS is the trade-mark, Reg. U.S. Pat. Off., for the acrylic resin thermoplastic sheets manufactured by the Rohm & Haas Company.*



**World War II**  
**AIR SPEEDS BETTER THAN**  
**300 M.P.H.**

**ROHM & HAAS COMPANY**

WASHINGTON SQUARE, PHILADELPHIA, PA.

Manufacturers of Chemicals including Plastics   Synthetic Insecticides   Fungicides   Enzymes   Chemicals for the Leather, Textile and other Industries



## Aviation Stock Averages

	Close of Business		
	Week of October 29	Week of November 5	Week of November 12
DOW-JONES INDUSTRIAL AVERAGE .....	138.29	135.47	132.15
DOW-JONES RAILROADS .....	35.04	33.67	32.57
3 MAJOR AIRCRAFT MANUFACTURING COMPANIES .....	28.35	26.27	24.47
4 MAJOR TRANSPORT COMPANIES .....	36.68	34.66	33.43
7 LESSER AIR LINE COMPANIES .....	12.21	12.00	....
8 LESSER MANUFACTURING COMPANIES .....	8.50	8.18	....
2 AVIATION COMPANIES .....	20.40	19.34	....

## Aviation Securities Over the Counter

	Close of Business			
	October 29 Bid	Asked	November 5 Bid	Asked
AIRLINES				
All American Aviation .....	3%	4	3%	4%
All American Aviation Pfd. ....	20	....	20	....
American Airlines Preferred .....	....	118	....	117
American Export Airlines .....	20%	31	29%	30%
Braniff* .....	13%	14	....	....
Chicago & Southern Com. ....	13	13%	12%	13
WTS .....	OW	BW	....	....
Continental Airlines .....	7½	8	7½	8
Delta Air .....	OW	BW	OW	BW
Inland Airlines .....	3%	4½	OW	BW
Mid Continent .....	5%	5%	5%	5%
National .....	13%	14	13½	14½
Northeast Airlines .....	6%	6%	6½	6%
Penn Central Airlines Pfd. ....	31%	32½	30	31
MANUFACTURING				
Aeronca .....	3½	3½	3½	3½
Air Associates Common .....	OW	....	....	....
Aircraft and Diesel .....	1%	1%	1½	1½
Aircraft Accessories .....	2½	3½	....	....
Airplane and Marine .....	3	3%	3½	3%
Airplane Mfg. & Supply .....	....	....	....	....
Central Airports .....	½	½	½	½
Columbia Aircraft Prod. ....	½	½	....	....
Continental Aviation .....	3%	4½	3½	4½
Delaware Aircraft Pfd. ....	½	....	½	½
General Aviation Equip. ....	1½	1½	1½	1½
Globe Aircraft .....	....	....	....	....
Harlow Aircraft .....	.15	.30	.20	.30
Harvill Aircraft Common .....	2	2½	2	2½
Harvill Aircraft Pfd. ....	.75	.95	....	....
Interstate Aircraft & Eng. ....	6½	6½	6½	6½
Jacobs Aircraft .....	3½	4	3½	3½
Kellett Aircraft .....	2	2½	1½	1½
Kinner Motors .....	.80	1.00	.90	1.00
Liberty Aircraft .....	10½	11½	10½	10½
Luccombe .....	½	¾	½	¾
Menasco Mfg. ....	½	1½	½	1½
Northrop Aircraft .....	5½	6½	5½	5½
Piper Aircraft Common .....	5½	5½	5½	5½
Piper Aircraft Preferred .....	13½	14½	13½	14½
Pittsburgh Aviation Ind. ....	....	....	....	....
Rob Aircraft .....	5%	6	5½	5½
Standard Aircraft .....	4½	4½	3½	4½
Taylorcraft Common .....	OW	2½	2.50	2.70
Taylorcraft Preferred .....	4½	5½	OW	BW
Timco .....	.55	.60	.50	.60
United Aircraft Prod. Pfd. ....	15½	16½	15½	16½

\* Now on New York Stock Exchange.

## Fairchild's 1st Dividend

Fairchild Engine and Airplane Corp. directors declared a dividend of 20c per share on outstanding common stock Nov. 18 to stockholders of record Dec. 3. The dividend will be paid Dec. 16. This is the first dividend paid by the corporation since its formation in 1936.

J. Carlton Ward, Jr., president, pointed out the postwar character of the corporation's products and its other engineering developments in the engine, airplane, and material fields.

## Martin Declares Dividend

Glenn L. Martin Co. declared a dividend of \$1.50 per share on its common stock Nov. 19. The dividend is payable Dec. 13 to stockholders of record Dec. 2. This is the second dividend of \$1.50 which the company has declared this year.

Glenn L. Martin, president, revealed that the company has "completely" met its 1943 schedules for the Army and Navy.

7 Good Places  
to STOP

- 1 Atlanta, Ga. ★ The Ansley
- 2 Savannah, Ga. ★ The Savannah
- 3 Birmingham, Ala. ★ The Tutwiler
- 4 Greensboro, N.C. ★ The O.Henry
- 5 New Orleans, La. ★ The St. Charles
- 6 Nashville, Tenn. ★ The Andrew Jackson
- 7 Montgomery, Ala. ★ The Jefferson Davis

DINKLER HOTELS  
CARLING DINKLER, PRESIDENTNeed Trained Men for  
MAINTENANCE ENGINEERING?

— Look to Parks

Throughout the aviation industry, you'll find Parks trained men serving in the following positions of responsibility in the field of Maintenance Engineering:

Crew Chief • Flight Engineer • Inspector  
Field Representative • Trouble-shooting  
Field Research • Manager Overhaul Base  
Factory Manager • Vice-President in charge  
of Maintenance • Hangar and Field Manager  
• Assembly Chief

In Maintenance Engineering — and in Aviation Operations, Aeronautical Engineering, and Professional Piloting — Parks graduates are serving the industry with distinction — made more valuable to you because of the thoroughness of their training at Parks.

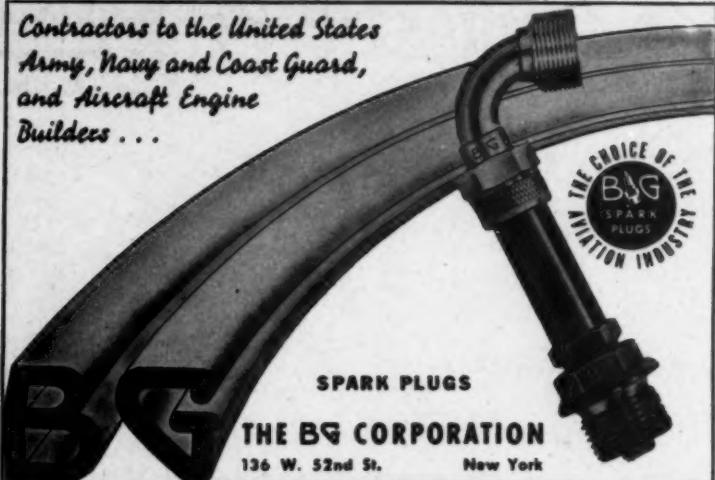
When you need men qualified for future leadership, write or wire Oliver L. Parks, President.

PARKS AIR COLLEGE, INC.

East St. Louis, Illinois

# MANUFACTURING

Contractors to the United States Army, Navy and Coast Guard, and Aircraft Engine Builders . . .



SPARK PLUGS  
THE B&G CORPORATION  
136 W. 52nd St. New York

## WORLD'S PREMIER AIRPLANE FABRIC

**FLIGHTEX**  
LIGHTER STRONGER SMOOTHER

ATLANTIC RAYON CORP.

INDUSTRIAL FABRICS DIVISION

350 Fifth Avenue New York 1, N. Y.

Leading Manufacturers of Fabric and Tapes for the Aircraft Industry.



Export Representative—Aviquipo, Inc., 25 Beaver St., N. Y. Cable Add: 'Aviquipo'

Aircraft



Computers

### LOAD ADJUSTER

This instrument is used in the operation of multi-placed commercial and military airplanes, for quickly and accurately determining the proper loading of an airplane for safe and efficient balance during flight. Each load Adjuster is especially designed for a particular airplane model.

**COX AND STEVENS AIRCRAFT CORPORATION**

P. O. Box 30

Mineola, N. Y.

**Auto Manufacture on West Coast 'More Than Just A Possibility', Says Nardon**

Ten million parts for the nation's aircraft industry poured from the Los Angeles plant of Poulsen and Nardon, Inc., during November, anniversary



Left to right—Gen. William Knudsen, George Poulsen, and Carl Nardon.

month of the company, which was founded in 1922. On the occasion of the firm's 21st birthday, Carl Nardon, co-founder, predicted that peacetime economy will bring manufacture of products never before touched in the Southern California area.

"We look forward to supplying manufacturers of such consumer goods as washing machines, refrigerators, and radios," he said. "Automotive manufacture on the West Coast is also more than just a possibility. Southern California during the war has developed its industrial resources beyond comprehension of pre-war years."

Prior to the war, gas stove fittings were a substantial part of Poulsen and Nardon's business. They entered the aircraft parts field in 1942 when tools were manufactured for Douglas Aircraft Co. George Poulsen is Nardon's partner. The manufacturers were formerly machinists.

### DPC Authorization

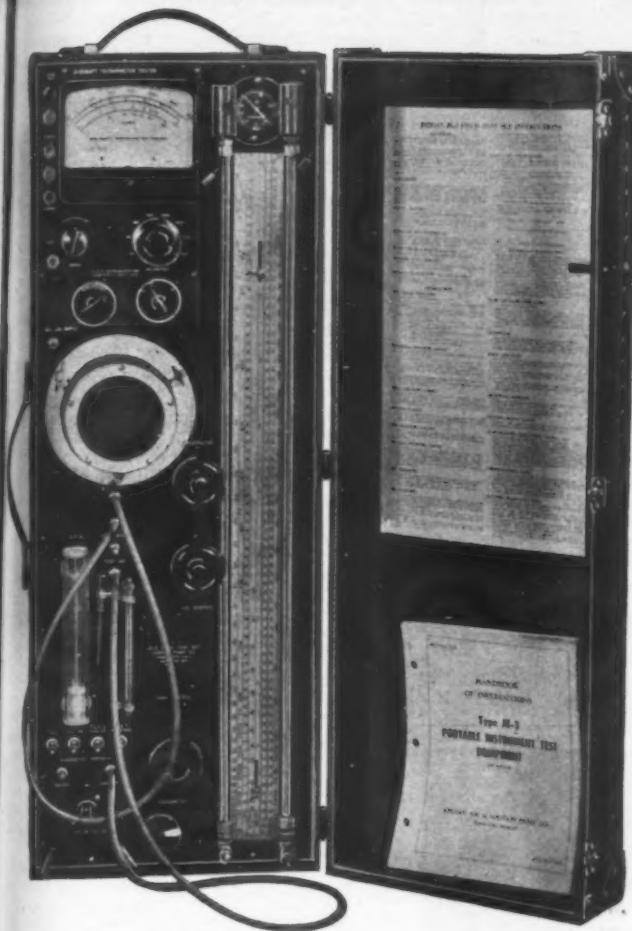
AERONCA Aircraft Corp., Middletown, O., for additional equipment at Ohio plant at a cost of about \$35,000, overall commitment of about \$1,150,000.

CURTISS-WRIGHT CORP., Buffalo, N. Y., for additional facilities at Kentucky plant at a cost of about \$2,400,000, overall commitment of about \$13,950,000.

BREWSTER AERONAUTICAL CORP., Long Island City, N. Y., for additional equipment at Queens County plant at a cost of about \$50,000, overall commitment of about \$675,000.

GOODYEAR AIRCRAFT CORP., Akron, Ohio, for additional facilities at Summit County plant at a cost of about \$200,000, overall commitment of about \$9,100,000.

# Now Released for Domestic Priorities!



Weighs only 65 lbs.  
complete with all equipment and accessories  
Height . . . . . 3 feet  
Width . . . . . 13 inches  
Depth . . . . . 10 inches

## The Jordan AIRCRAFT INSTRUMENT TESTER

**Lightweight—Portable**

With this complete and accurate unit, field-testing of aircraft instruments is practical and economical. Easily used on the bench, in the cockpit, or on the walkway of the wing, it can be readily understood and operated by any man who understands instruments. The Jordan JK-5 Tester provides convenient checks that add to plane "air-hours" — and add to pilots' confidence and security.

### THIS COMPACT UNIT PROVIDES PRECISION CHECKS FOR:

#### PRESSURE TESTS

Manifold pressure indicator  
Air speed indicator  
Suction gauge  
Fuel pressure gauge  
Air pressure gauge  
Oxygen regulator indicator  
Rate of climb indicator  
Altimeter (all types)  
Bank and turn indicator

#### Landing gear pressure indicator

Oil pressure gauge  
Suction relief valve

#### SPERRY GYROSCOPIC INSTRUMENTS

Directional gyro drift test  
Artificial horizon (Scorsby)  
Electric gyro  
Oscillator meter  
J-B-T (volts-amps-ohms)  
Stroboscope (for gyro speed)

Automatic pilot gyros  
(standing drift test)

#### TEMPERATURE INDICATORS

Thermocouple indicator  
Thermocouple leads  
Electric (resistance type)  
Vapor pressure type

#### TACHOMETERS

Electric generator  
Centrifugal

Mechanical  
Chronometric

Direct from airscrew to  
any type of comparison  
Magnetic types

#### ADDITIONAL ELECTRIC TESTS

Ammeter  
Voltmeter (voltage reg-  
ulator, etc.)  
Ohm tests

**NOTE** Available only on AAI Priority.  
For Prices and Literature write:

**JORDAN PUMP CO.**  
2004 BRYANT BLDG., KANSAS CITY, MO.

in West  
Just A  
Nardon

tion's air-  
the Los  
Nardon,  
anniversary

udsen,  
lon.

ich was  
on of the  
don, co-  
the econ-  
products  
Southern

g manu-  
oods as  
ers, and  
manu-  
so more  
ern Calif-  
loped its  
prehensive

fittings  
sen and  
red the  
en tools  
Aircraft  
partner  
formerly

own. O-  
ant at a  
ment of

N. Y.  
ant at a  
ment

Long  
ipment  
about  
\$675,000.  
Akron  
Summit  
\$630,000.  
000.

## Advertisers In this Issue

Company	Page
Air Transport Association	
Passenger Division	43
Aircraft Standard Parts Company	53
Allison Division of General Motors	59
American Airlines, Inc.	3
Atlantic Rayon Corporation	
Suncook Mills Division	88
Aviation Insurance Sales	84
B G Corporation	88
B-H Aircraft Company	90
Beech Aircraft Corporation	51
Bendix Aviation Corporation	
Bendix Products Division	75
Boeing Airplane Company	55
Boots Aircraft Nut Corporation	38B
Caleneese Celluloid Corporation	20A
Clayborne Manufacturing Company	4
Cleveland Pneumatic Tool Company	29
Consolidated-Vultee Aircraft Corp.	10-11
Cox and Stevens Aircraft Corp.	88
Darnell Corporation, Ltd.	82
Delco Products Division of General Motors	71
Dinkler Hotels Company, Inc.	87
Doubleday, Doran & Co., Inc.	78
Dumore Company	6
Electronic Laboratories, Inc.	40B
Ethyl Corporation	67
Fairchild Engine & Airplane Corp.	72
Fleetwings, Inc., Division of Kaiser Cargo	40A
General Aircraft Corporation	64
Globe Aircraft Corporation	83
Goodrich, B. F., Company	12 A-D
Grand Rapids Industries, Inc.	3rd cover
Grand Rapids Varnish Corporation	80
Guardian Electric Mfg. Co.	48
Hallcrafters Company	27
Hayes Industries, Inc.	5
Jordan Pump Company	89
Kellett Aircraft Corporation	61
Kollsman Instrument Company, Inc.	85
Lawrance Engineering & Research Corp.	8
Link Aviation Devices, Inc.	63
Northrop Aircraft, Inc.	37
North American Aviation, Inc.	20B
Otto Aviation Corporation	82
Parks Air College	87
Piper Aircraft Corporation	33
RCA Victor Division	69
Radio Receptor Company, Inc.	7
Republic Aviation Corp.	2nd cover
Reynolds Metals Company	46-47
Reynolds Molded Plastics	14
Rohm & Haas Company	86
Rotol Airscrews, Ltd.	79
Ryan Aeronautical Co.	30
Standard Oil Co of N. J.	45
Texas Company	4th cover
Vega Aircraft Corporation	
Sub. of Lockheed Aircraft Corp.	77
Vokes, Ltd.	35
Western Electric Company, Inc.	57
Whiting Corporation	76
Wittek Manufacturing Company	90
Wright Aeronautical Corp.	38A

## Parts Companies Urged to Formulate Postwar Policies

In one of the first postwar discussions by a leader in the aircraft parts industry,



Colvin

Timothy E. Colvin, executive vice president in charge of the Burchbank Division, Aircraft Accessories Corp., told *American Aviation* last fortnight that parts companies "might well give more attention to postwar adjustment

"Due to the key role which small companies will play in holding employees and furnishing new employment opportunities during peace economy, we have two jobs to do: speed war production and set-up adequate plans for employment after the war," Colvin said.

He advocates that parts companies, of which there are more than 2,000 in the Southern California area, immediately set up planning departments to accomplish a three-point program:

1. Investigate the kind of parts and units that fit in with their particular equipment and machinery, so the company can convert rapidly.
2. Carry out exhaustive market surveys.
3. Complete necessary tooling now to speed up the new production lines.

## AiResearch Develops New Auxiliary Diesel Motor

AiResearch Manufacturing Company, a division of The Garrett Corporation, announces development of a new type diesel motor to fill the war need for field lighting, portable machine shop trucks, and water pumping for power and various other needs.

Walker Brownlee, general manager and vice president, predicts that the engine will take the company into new fields as "we believe there is room for AiResearch on the ground as well as in the air."

"Our new Diesel

will be useful in hundreds of different ways during and after the war . . . for electric light and power, for pumping oil and water, for propelling boats, trucks or tractors," he says. "It will be used as an auxiliary power plant in large ships, barges and aircraft; in mines for power and ventilation; for airconditioning passenger airplanes, cars, busses and possibly your future automobile, and as power and lighting equipment at airports and hangars."

He describes the first model as a single cylinder engine that will give two power strokes per revolution, the same number as the conventional four-cylinder auto engine. It is light in weight, free from vibration, and quiet.

## Classified

Available January 1, qualified aviation executive with 17 years factory, airline, C.A.A., engineering, piloting, and sales experience. Address Box 364. AMERICAN AVIATION, American Building, Washington, D. C.

**B-H**

**MANUFACTURERS**  
of SHEET METAL and  
TUBULAR ACCESSORIES

**LIFE RAFT**  
**PUMPS**

CONTRACTORS TO ALL LEADING  
ENGINE and PROPELLER  
MANUFACTURERS

**B-H** AIRCRAFT CO.  
LONG ISLAND CITY NEW YORK



Since the beginning of modern aviation Wittek Hose Clamps have been known as the standard of the industry. Today they are being used by the nation's leading military aircraft and engine builders.

**WITTEK** *Aviation*  
HOSE CLAMPS